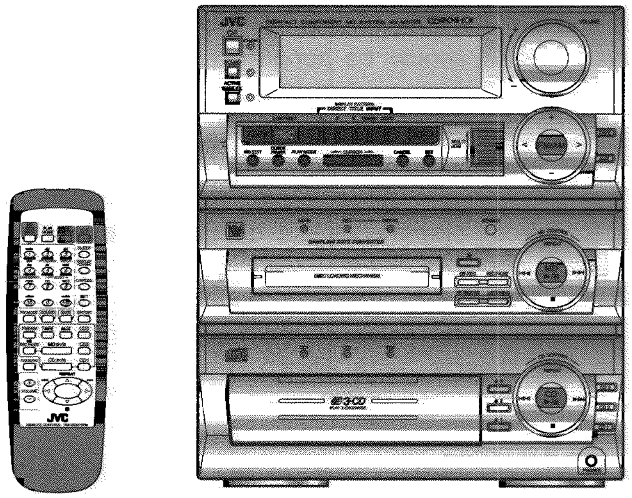
JVC

SERVICE MANUAL

COMPACT COMPONENT MD SYSTEM

MX-MD70
CA-MD70/CA-MD70R



Area Suffix	
MX-MD70	
J	The U.S.A & Canada
CA-MD70	
UT	Taiwan
US	Singapore
UB	Hong Kong
U	Other areas
CA-MD70R	
B	U.K.
E	Continental Europe
EN	Northern Europe

R·D·S EON

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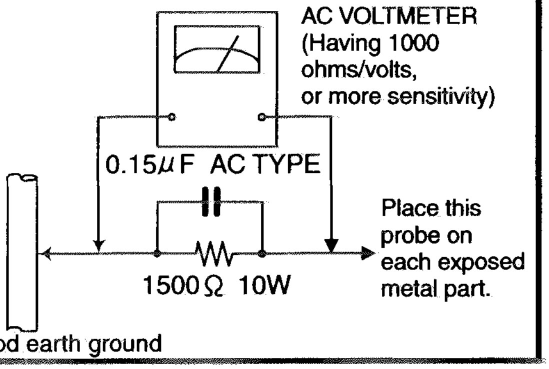
No.20731
Jan. 1999

Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet , particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now reverse the plug in the AC outlet and repeat each measurement voltage measured any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).


AC VOLTMETER
(Having 1000 ohms/volts, or more sensitivity)
0.15μF AC TYPE
1500Ω 10W
Place this probe on each exposed metal part.
Good earth ground

Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

⚠ ***CAUTION*** **Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.**

Safety Precautions (U.K only)

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits.
2. Any unauthorised design alterations or additions will void the manufacturer's guarantee ; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
3. Essential safety critical components are identified by (⚠) on the Parts List and by shading on the schematics, and must never be replaced by parts other than those listed in the manual. Please note however that many electrical and mechanical parts in the product have special safety related characteristics. These characteristics are often not evident from visual inspection. Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the Service Manual and may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

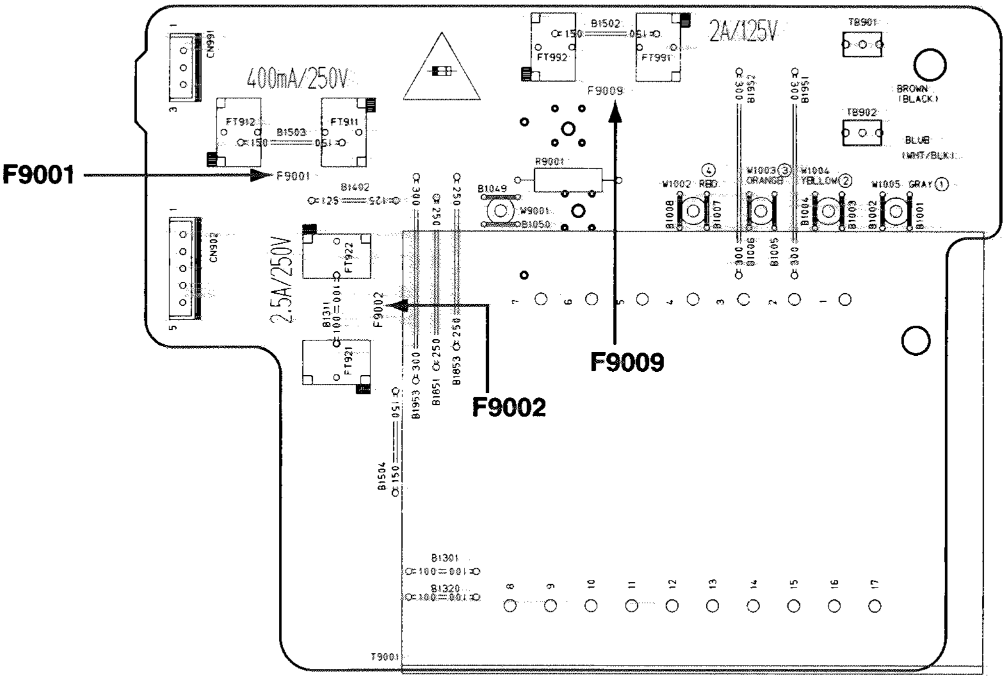
Warning

1. Service should be performed by qualified personnel only.
2. This equipment has been designed and manufactured to meet international safety standards.
3. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
4. Repairs must be made in accordance with the relevant safety standards.
5. It is essential that safety critical components are replaced by approved parts.
6. If mains voltage selector is provided, check setting for local voltage.

⚠ ***CAUTION*** **Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.**

Importance Admistering point on the Safety

CA-MD70J

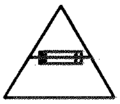

F9001
F9002
F9009
400mA/250V
2.5A/250V
2A/125V
CN991
CN902
FT912
FT911
FT992
FT991
FT922
FT921
TB901
TB902
BROWN (BLACK)
BLUE (WHT/BLK)
W1002 RED
W1003 ORANGE
W1004 YELLOW
W1005 GRAY
R9001
W9001
T9001

Note : It's means "J" for U.S.A. market model and canada market model.

CA-MD70J ONLY

Full Fuse Replacement Marking

Graphic symbol mark
(This symbol means fast blow type fuse.)



should be read as follows ;

FUSE CAUTION

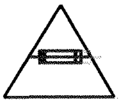
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSES ;

F9001 : 400mA, 250V
F9002 : 2.5A, 250V
F9009 : 2A, 125V
F1904 : 6.3-A, 125-V

CA-MD70J SEULEMENT

Marquage Pour Le Remplacement Complet De Fusible

Le symbole graphique (Ce symbole signifie fusible de type á fusion rapide.)



doit être interprété comme suit ;

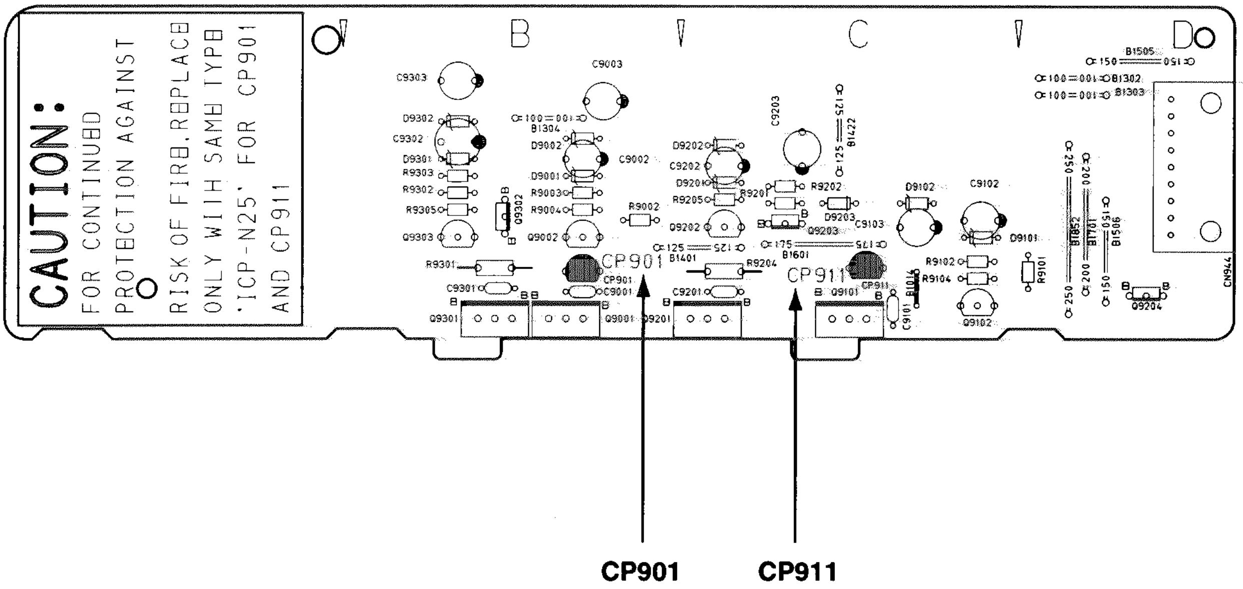
PRECAUTIONS SUR LES FUSIBLES

POUR UNE PROTECTION CONTINUE CONTRE DES RISQUES D'INCENDIE, REMPLACER SEULEMENT PAR UN FUSIBLE DU MEME TYPE ;

F9001 : 400mA, 250V
F9002 : 2.5A, 250V
F9009 : 2A, 125V
F1904 : 6.3-A, 125-V

Importance Admistering point on the Safety

CA-MD70J


CAUTION:
FOR CONTINUED
PROTECTION AGAINST
RISK OF FIRE, REPLACE
ONLY WITH SAME TYPE
'ICP-N25' FOR CP901
AND CP911
B
C
D
CP901
CP911
CN944

IC PROTECTOR CAUTION

FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF IC PROTRCTORS ;

CP901: ICP-N25
CP911: ICP-N25

PRECAUTIONS SUR LES PROTECTEUR DE CI

POUR UNE PROTECTION CONTINUE CONTRE DES RISQUES D'INCENDIE, REMPLACER SEULEMENT PAR UN CI DU MEME TYPE ;

CP901: ICP-N25
CP911: ICP-N25

Important for Laser Products

1. **CLASS 1 LASER PRODUCT**
2. **DANGER :** Invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION :** There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. **CAUTION :** The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. **CAUTION :** If safety switches malfunction, the laser is able to function.
6. **CAUTION :** Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle.Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

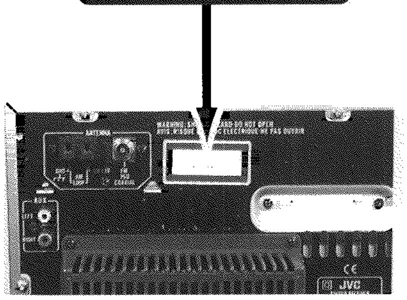
ADVARSEL : Usynlig laserstråling ved åpning,når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

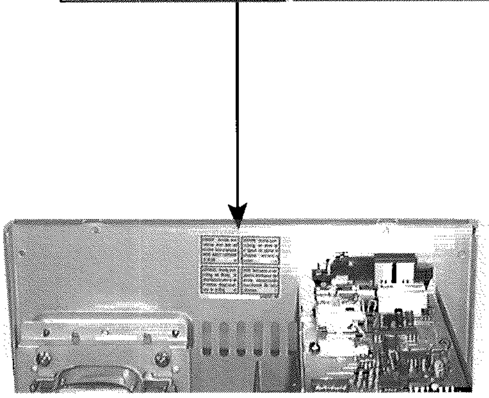
REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

DANGER : Invisible laser radiation when open and interlock or defeated. AVOID DIRECT EXPOSURE TO BEAM (e)	VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle.Älä katso säteeseen. (d)
VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen. (s)	ADVARSEL :Usynlig laserstråling ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (f)

CLASS 1
LASER PRODUCT





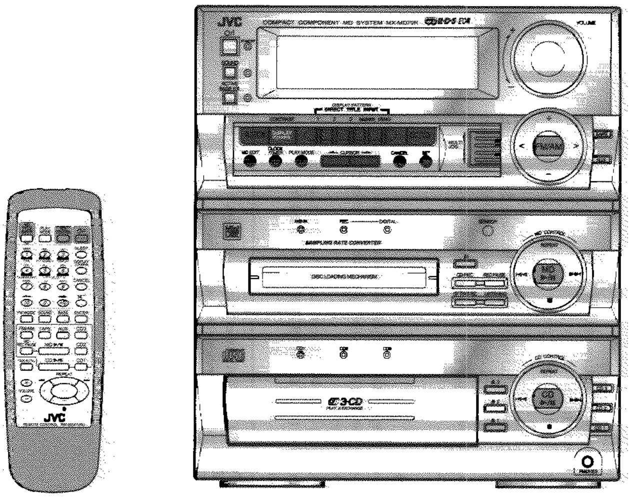
MX-MD70/CA-MD70/CA-MD70R

JVC

COMPACT COMPONENT MD SYSTEM

MD-KOMPAKT-KOMPONENTEN-SYSTEM
SYSTEME MD DE COMPOSANTS COMPACT
COMPACTO COMPONENT MD-SYSTEEM
SISTEMAS MD DE COMPONENTES COMPACTOS
IMPIANTO A COMPONÈNTI COMPATTO MD

CA-MD70R



R·D·S EON

Mini Disc

COMPACT disc DIGITAL AUDIO

INSTRUCTIONS
BEDIENUNGSANLEITUNG
MANUEL D'INSTRUCTIONS
GEBRUIKSAANWIJZING
MANUAL DE INSTRUCCIONES
ISTRUZIONI

For Customer Use:

Enter below the Model No. and Serial No. which are located either on the rear, bottom or side of the cabinet. Retain this information for future reference.

Model No. ______________________

Serial No. ______________________

LVT0074-002B
[E]

Introduction

We would like to thank you for purchasing one of our JVC products. Before operating this unit, read this manual carefully and thoroughly to obtain the best possible performance from your unit, and retain this manual for future reference.

About This Manual

This manual is organized as follows:

- The manual mainly explains operations using the buttons and controls on the unit. You can also use the buttons on the remote control if they have the same or similar names (or marks) as those on the unit.
  If operation using the remote control is different from that using the unit, it is then explained.
- Basic and common information that is the same for many functions is grouped in one place, and is not repeated in each procedure. For instance, we do not repeat the information about turning on/off the unit, setting the volume, changing the sound effects, and others, which are explained in the section "Basic Settings" and "Common Operations" on pages 10, 11, and 12.
- The following marks are used in this manual:

Gives you warnings and cautions to prevent from a damage or risk of fire/electric shock.
Also gives you information which is not good for obtaining the best possible performance from the unit.

Gives you information and hints you had better know.

Precautions

Installation

- Install in a place which is level, dry and neither too hot nor too cold — between 5°C (41°F) and 35°C (95°F).
- Install the unit in a location with adequate ventilation to prevent internal heat built-up in the unit.
- Leave sufficient distance between the unit and the TV.
- Keep the speakers away from the TV to avoid interference with TV.

DO NOT install the unit in a location near heat sources, or in a place subject to direct sunlight, excessive dust or vibration.

Power sources

- When unplugging from the wall outlet, always pull the plug, not the AC power cord.

DO NOT handle the AC power cord with wet hands.

Moisture condensation

Moisture may condense on the lens inside the unit in the following cases:

- After starting heating in the room
- In a damp room
- If the unit is brought directly from a cold to a warm place

Should this occur, the unit may malfunction. In this case, leave the unit turned on for a few hours until the moisture evaporates, unplug the AC power cord, and then plug it in again.

Others

- Should any metallic object or liquid fall into the unit, unplug the unit and consult your dealer before operating any further.
- If you are not going to operate the unit for an extended period of time, unplug the AC power cord from the wall outlet.

DO NOT disassemble the unit since there are no user serviceable parts inside.

If anything goes wrong, unplug the AC power cord and consult your dealer.

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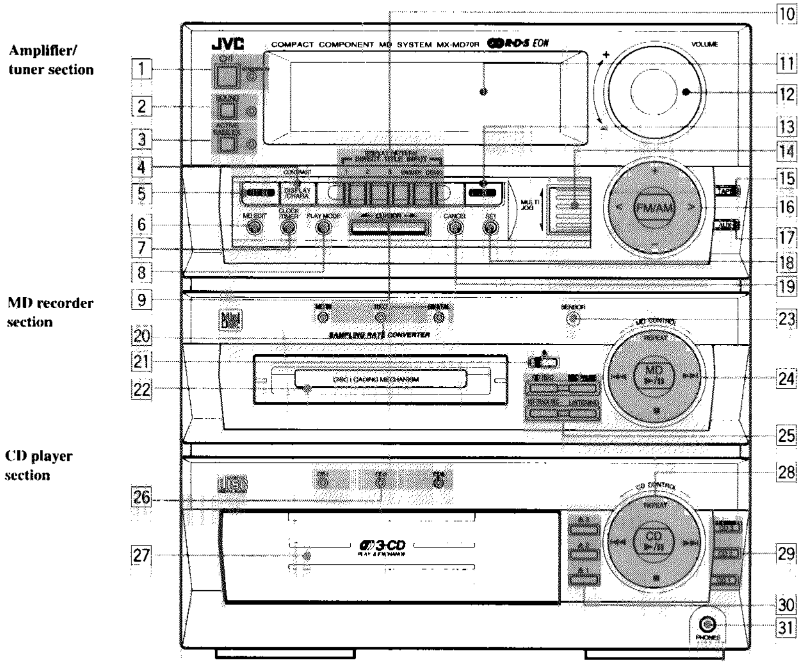
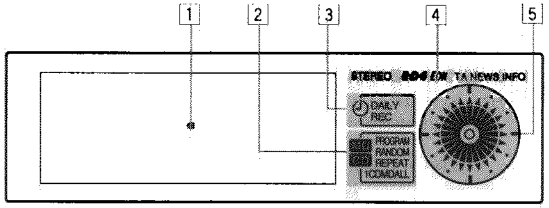
Location of the Buttons and Controls

Become familiar with the buttons and controls on your unit.

Front Panel



Display Window



See pages in the parentheses for details.

Front Panel

Amplifier/tuner section

1 ⏻/I button and STANDBY/ON lamp (11)
2 SOUND button and lamp (12)
3 ACTIVE BASS EX. (extension) button and lamp (12)
4 CONTRAST/DISPLAY/CHARA. (character) button (10, 24, 38)
5 TITLE button (38)
6 MD EDIT button (33)
7 CLOCK/TIMER button (10, 43)
8 PLAY MODE button (20, 22, 24, 26)
9 CURSOR ⟵ / ⟶ buttons (12, 39)
10 DISPLAY PATTERN buttons (10)
- 1, 2, 3, DIMMER, and DEMO buttons
  Pressing DEMO also turns on the unit.

DIRECT TITLE INPUT buttons (39)
11 Display window
12 VOLUME control (11)
13 ENTER button (39)
14 MULTI JOG dial
15 TAPE button (11)
Pressing this button also turns on the unit.
16 Tuner control buttons (13)
- FM/AM, + / , and < / > buttons
  Pressing FM/AM also turns on the unit.

17 AUX button (11, 29)
Pressing this button also turns on the unit.
18 SET button
19 CANCEL button

MD recorder section

20 MD recorder operation lamps
- MD IN, REC, and DIGITAL lamps

21 ▲ (eject) button (23)
Pressing this button also turns on the unit.
22 MD loading slot
23 SENSOR (remote sensor)
24 MD CONTROL buttons (23)
- MD ▶/II, REPEAT, ⏮ / ⏭, and ■ buttons
  Pressing MD ▶/II also turns on the unit.

25 Recording buttons (28 – 31)
- CD REC, REC PAUSE, 1ST TRACK REC, and LISTENING buttons

CD player section

26 Disc number lamps
- CD 1, CD 2, and CD 3 lamps

27 Disc compartment
28 CD CONTROL buttons (19)
- CD ▶/II, REPEAT, ⏮ / ⏭, and ■ buttons
  Pressing CD ▶/II also turns on the unit.

29 Disc number buttons (20)
- CD 1, CD 2, and CD 3 buttons
  Pressing one of these buttons also turns on the unit.

30 ▲ (open/close) buttons (19)
- ▲ 1, ▲ 2, and ▲ 3 buttons
  Pressing one of these buttons also turns on the unit.

31 PHONES jack (11)

Display window

1 Main display
2 MD/CD playback mode indicators
- PROGRAM, RANDOM, REPEAT mode indicators

3 Timer mode indicators
- DAILY (daily timer) and REC (recording timer) indicators

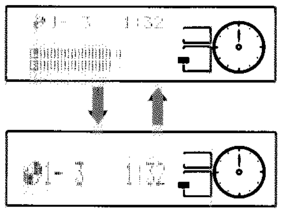
4 Tuner mode indicators
- STEREO, RDS, EON, and TA/NEWS/INFO indicators

5 Analog clock

notes **About the indications in the main display**

When operating the unit using the remote control, the indications in the main display appear enlarged (without the audio level indicator), then become diminished (with the audio level indicator). On the other hand, they do not appear enlarged when using the buttons on the unit.

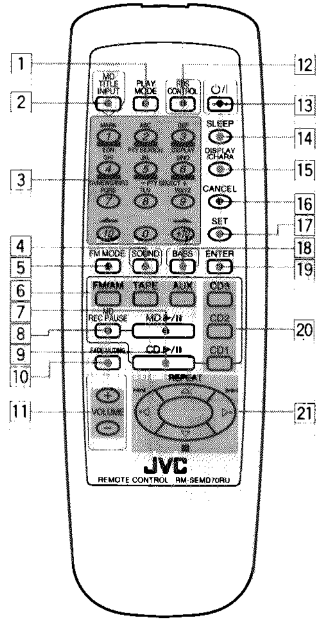
Ex. When using the remote control



The illustrations of the main display used in this manual are of those shown by using the buttons on the unit.

Continued

Remote Control


1
2
3
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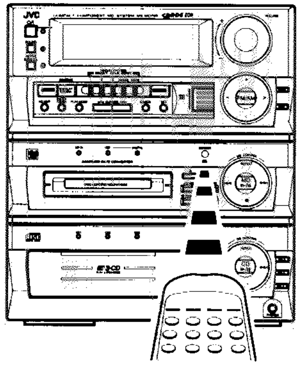
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
MD TITLE INPUT
PLAY MODE
RDS CONTROL
SLEEP
DISPLAY CHARA
CANCEL
SET
FM MODE
SOUND
BASS
ENTER
FM/AM
TAPE
AUX
CD3
REC PAUSE
MD ▶/II
CD2
FADE MUTING
CD ▶/II
CD1
REPEAT
VOLUME
JVC
REMOTE CONTROL RM-SEMD70RU



When using the remote control, point it at the remote sensor on the front panel.

Remote Control

1 PLAY MODE button (20, 22, 24, 26)
2 MD TITLE INPUT button (41)
3 Number buttons*
- 1 – 10, +10 buttons (14, 20, 24)
- Character entry buttons (A – Z) (41)
- ←— / —→ buttons (41)
- RDS operation buttons (15):
  EON, PTY SEARCH, DISPLAY, TA/NEWS/ INFO, PTY SELECT – / + buttons

4 SOUND button (12)
5 FM MODE button (13)
6 Source selecting buttons (11, 13, 29)
- FM/AM, TAPE, and AUX buttons
  Pressing one of these buttons also turns on the unit.

7 MD ▶/II button (23)
Pressing this button also turns on the unit.
8 MD REC PAUSE button (29)
9 CD ▶/II button (19)
Pressing this button also turns on the unit.
10 FADE MUTING button (11)
11 VOLUME + / – button (11)
12 RDS CONTROL button (15)
13 ⏻/I button (11)
14 SLEEP button (46)
15 DISPLAY/CHARA (character) button (24, 38)
16 CANCEL button
17 SET button
18 BASS button (12)
19 ENTER button (39)
20 Disc number buttons (20)
- CD 1, CD 2, and CD 3 buttons
  Pressing one of these buttons also turns on the unit.

21 CD/MD/tuner control buttons*
- REPEAT, ⏮ / ⏭, ■, and ◁ / ▷ / △ / ▽ buttons

* **Before using these buttons:**
For tuner operations, press FM/AM on the remote control first.
For CD operations, press one of the disc number buttons (CD 1, CD 2, and CD 3) or CD ▶/II on the remote control first.
For MD operations, press MD ▶/II on the remote control first.
- *The number buttons are also used for the following:*
  To operate RDS function, press RDS CONTROL on the remote control first.
  To enter an MD title, press MD TITLE INPUT on the remote control first.

notes **To operate the unit correctly using the remote control**
Make sure that the operation mode for the unit is the same for the remote control.

Getting Started

Continued

Unpacking

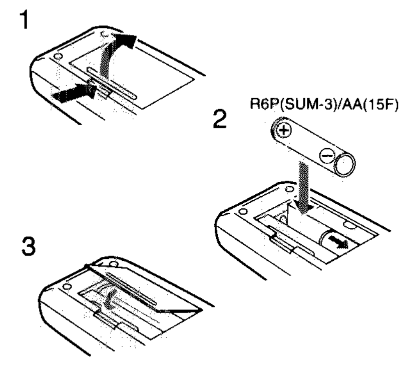
After unpacking, check to be sure that you have all the following items.
The number in the parentheses indicates the quantity of the pieces supplied.

- AM loop antenna (1)
- FM antenna (1)
- Remote control (1)
- Batteries (2)

If any is missing, consult your dealer immediately.

Putting the Batteries into the Remote Control

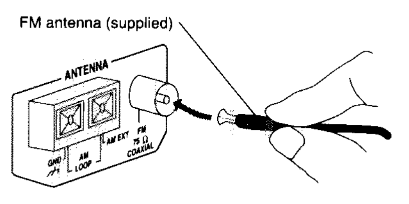
Insert the batteries — R6P(SUM-3)/AA(15F) — into the remote control, by matching the polarity (+ and –) on the batteries with the + and – markings on the battery compartment.
When the remote control can no longer operate the unit, replace both batteries at the same time.


1
2
3
R6P(SUM-3)/AA(15F)
⊕
⊖

STOP
- DO NOT use an old battery together with a new one.
- DO NOT use different types of batteries together.
- DO NOT expose batteries to heat or flame.
- DO NOT leave the batteries in the battery compartment when you are not going to use the remote control for an extended period of time. Otherwise, it will be damaged from battery leakage.

Connecting Antennas

FM antenna


FM antenna (supplied)
ANTENNA
GND
AM LOOP
AM EXT
FM 75 Ω COAXIAL

1 **Attach the FM antenna to the FM 75 Ω COAXIAL terminal.**

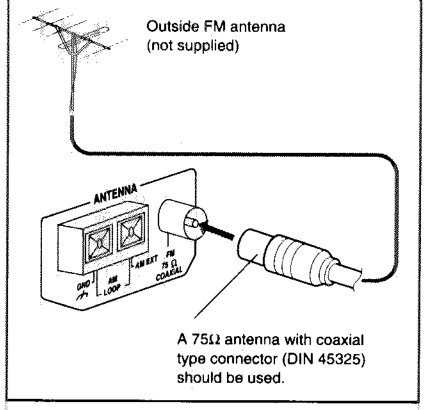
2 **Extend the FM antenna.**

3 **Fasten it up in the position which gives you the best reception.**

notes **About the supplied FM antenna**
The FM antenna supplied with this unit can be used as temporary measure. If reception is poor, you can connect an outside FM antenna.

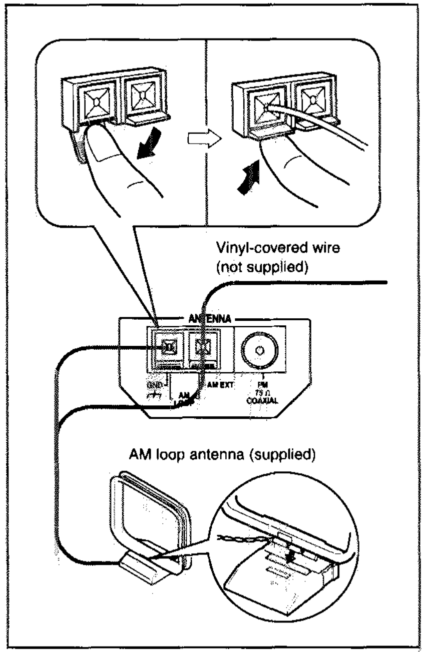
To connect an outside FM antenna

Before connecting it, disconnect the supplied FM antenna.


Outside FM antenna (not supplied)
ANTENNA
GND
AM LOOP
AM EXT
FM 75 Ω COAXIAL

A 75Ω antenna with coaxial type connector (DIN 45325) should be used.

AM antenna


Vinyl-covered wire
(not supplied)
ANTENNA
AM EXT
FM 75 Ω COAXIAL
GND
AM LOOP
AM loop antenna (supplied)

1. **Connect the AM loop antenna to the AM LOOP terminals as illustrated.**
2. **Turn the AM loop antenna until you have the best reception.**

To connect an outside AM antenna

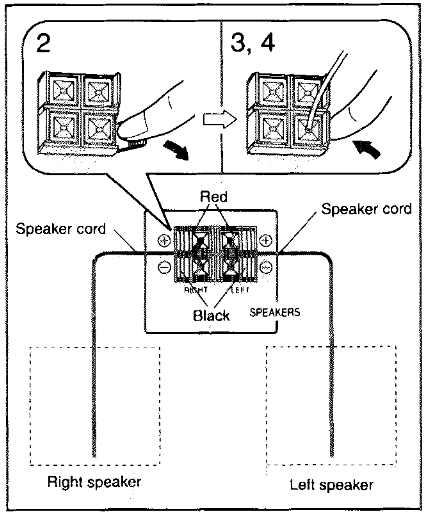
When reception is poor, connect a single vinyl-covered wire to the AM EXT terminal and extend it horizontally. (The AM loop antenna must remain connected.)

notes **For better reception of both FM and AM**

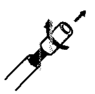
- Make sure the antenna conductors do not touch any other terminals and connecting cords.
- Keep the antennas away from metallic parts of the unit, connecting cords, and the AC power cord.

Connecting Speakers

You can connect the speakers using the speaker cords.


2
3, 4
Red
Speaker cord
Speaker cord
RIGHT
LEFT
Black
SPEAKERS
Right speaker
Left speaker

1. **Twist the core of the cord at the end of each cord, then remove the insulation.**



2. **Open the speaker terminal.**
3. **Insert the end of the speaker cord to the terminal.** Match the polarity of the speaker terminals: Red (+) to red (+) and black (–) to black (–).
4. **Close the speaker terminal on the rear of the unit.**

Use only speakers with the same speaker impedance as indicated by the speaker terminals on the rear of the unit.

Connecting Other Equipment

You can connect the following equipment to this unit:

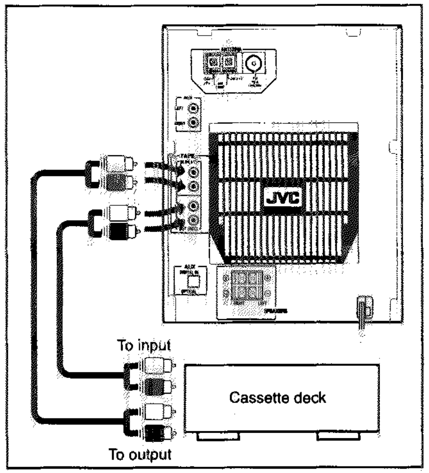
- Cassette deck — used as a playback and recording device.
- Audio equipment — used only as an analog playback device.
- Audio equipment with an optical digital output terminal — used only as a digital playback device.

When you connect and use these equipment, refer also to the manuals supplied with them.

Be sure that the plugs of the audio cords and the jacks on the rear of the unit are color coded: White plugs and jacks are for left audio signals, and red ones for right audio signals.

- DO NOT connect other equipment while the power is on.
- DO NOT plug in any equipment until all connections are complete.

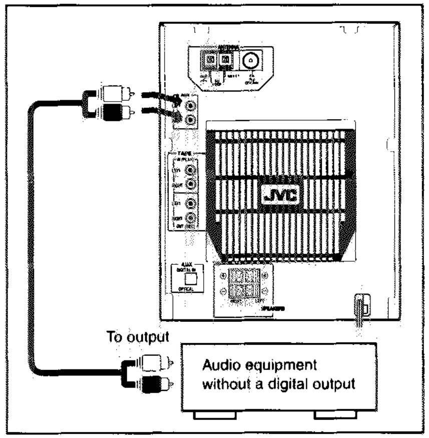
To connect a cassette deck


JVC
To input
Cassette deck
To output

By using audio cords (not supplied), connect:

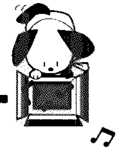
- Between the audio input jacks on the cassette deck and the TAPE OUT (REC) jacks.
- Between the audio output jacks on the cassette deck and the TAPE IN (PLAY) jacks.

To connect audio equipment without a digital output terminal

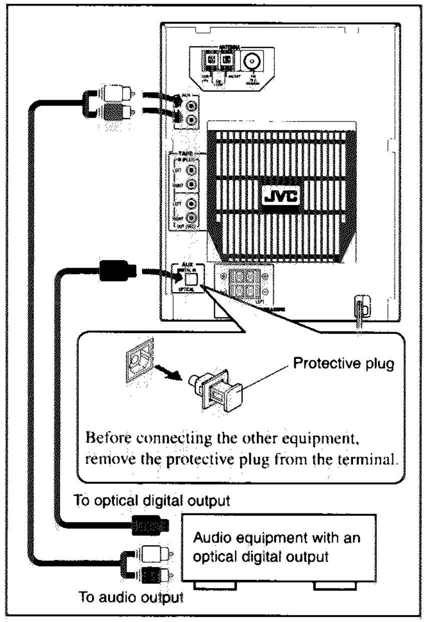

JVC
To output
Audio equipment
without a digital output

Connect the audio output jacks on the other equipment and the AUX jacks, using an audio cord (not supplied).

Continued



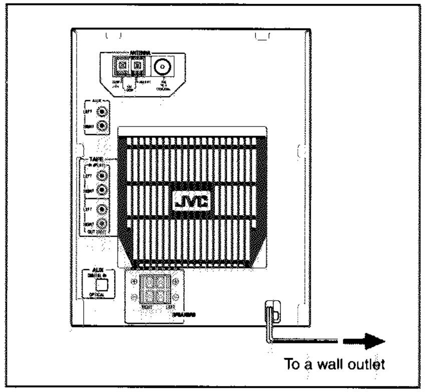
To connect audio equipment with an optical digital output terminal


Protective plug
Before connecting the other equipment, remove the protective plug from the terminal.
To optical digital output
Audio equipment with an optical digital output
To audio output

By using both an optical digital cord (not supplied) and an audio cord (not supplied), connect:

- Between the optical digital output terminal on the other equipment and the AUX DIGITAL IN OPTICAL terminal.
- Between the audio output jacks on the other equipment and the AUX jacks.

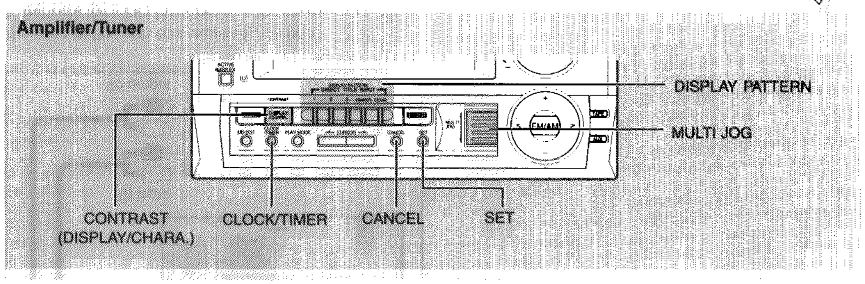
NOW, you can plug in the unit and other connected equipment FINALLY!


To a wall outlet

When connecting the AC power cord into a wall outlet, the unit automatically starts display demonstration.

To stop the display demonstration, press any button on the unit or the remote control.

Basic Settings

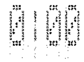

Amplifier/Tuner
DISPLAY PATTERN
MULTI JOG
CONTRAST (DISPLAY/CHARA.)
CLOCK/TIMER
CANCEL
SET

Before operating the unit any further, first set the clock built in this unit, then some other basic settings.

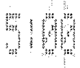
Setting the Clock

You can set the clock whether the unit is turned on or in standby mode.

1 **Press CLOCK/TIMER.**
The hour digit in the main display starts flashing.

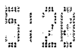


2 **Rotate MULTI JOG to adjust the hour, then press SET.**



- If you want to correct the hour after pressing SET, press CANCEL. The hour digit starts flashing again.

3 **Rotate MULTI JOG to adjust the minute, then press SET.**



After completing the clock setting...
The analog clock in the display window shows the current time. This analog clock advances its long hand twice every 5 minutes. (When 3 minutes pass, it advances once. Then 2 minutes pass, it advances again.)

notes

If there is a power failure
The clock loses the setting and is reset to "0:00." You need to set the clock again.

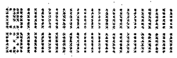
Changing the Display Pattern

To change the display pattern of the audio level indicator

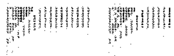
The audio level indicator appears in the main display only while playing a source.

Press 1, 2 or 3.

- 1: For the following pattern:



- 2: For the following pattern:



- 3: For erasing the audio level indicator:
  The audio level indicator is not shown, and other indications — the disc number or track number, playing time — become enlarged in the main display.
  To restore the previous audio level indicator, press 3 again. (The other indications in the main display are diminished.)

To dim the display window

Press DIMMER.
Each time you press the button, the display window and the MULTI JOG dial dim and brighten alternately.

To start the display demonstration

Press DEMO.

- If the unit is in standby mode, the power turns on automatically.

To stop the demonstration, press any button. "DEMO OFF" appears.

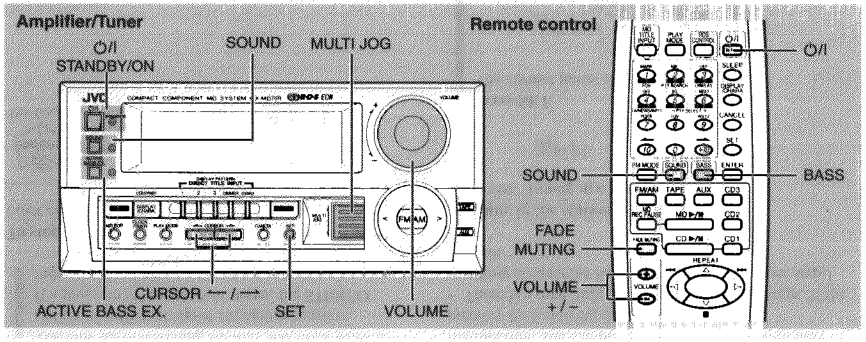
To adjust the contrast of the display window

1 **Press and hold CONTRAST (DISPLAY/CHARA.) for more than 2 seconds.**
The contrast adjustment display appears.

2 **Rotate MULTI JOG to adjust the contrast.**

After completing contrast adjustment...
Pressing any button restores the previous display.

Common Operations



Here are basic and common things that apply to all the functions of the unit.

Turning On the Power and Selecting the Sources

When you press the play button for a particular source, the unit automatically turns on (and starts playing the source).

To select the external equipment as the source, press TAPE or AUX so that the unit automatically turns on.

To turn on the unit without playing, press ⏻/I so that the STANDBY/ON lamp lights orange.

To turn off the unit (on standby), press ⏻/I again so that the STANDBY/ON lamp lights red.
A little power is always consumed even while the unit is in standby mode.
To switch off the power supply completely, unplug the AC power cord from the AC outlet.
The STANDBY/ON lamp goes off.

When you unplug the AC power cord or if a power failure occurs
The clock is reset to 0:00 right away, while the tuner preset stations will be erased in a few days.

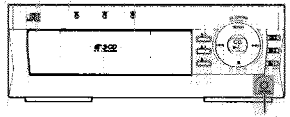
Adjusting the Volume

You can adjust the volume level only while the unit is turned on.

Turn VOLUME clockwise to increase the volume or counterclockwise to decrease it.

When using the remote control, press VOLUME + to increase the volume or press VOLUME – to decrease it.

For private listening
Connect a pair of headphones to the PHONES jack. No sound comes out of the speakers. Be sure to turn down the volume before connecting or putting headphones.



DO NOT turn off (on standby) the unit with the volume set to an extremely high level; otherwise, the sudden blast of sound can damage your hearing, speakers and/or headphones when you turn on the unit or start playing any source.
REMEMBER you cannot adjust the volume level while the unit is in standby mode.

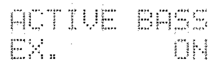
To turn down the volume level temporarily

Press FADE MUTING on the remote control.
To restore the sound, press the button again.

Reinforcing the Bass Sound

The richness and fullness of the bass sound is maintained regardless of how low you set the volume.
You can use this effect only for playback.

To get the effect, press ACTIVE BASS EX. (extension) on the unit or BASS on the remote control so that the ACTIVE BASS EX. lamp lights on the unit.



(In the main display)

To cancel the effect, press the button again so that the lamp goes off.

Selecting the Sound Modes

You can select one of the 6 preset sound modes. The sound modes can be applied only to playback sounds, and cannot be used for recording.

To select the sound modes, press SOUND so that the SOUND lamp lights on the unit.

- Each time you press the button, the sound modes change as follows:

```
┌► D.CLUB ──► HALL ──► STADIUM ──► ROCK ─┐
│ (Dance CLUB)                           │
└─ OFF ◄── MANUAL ◄── CLASSIC ◄── POP ◄──┘
 (Canceled)
```

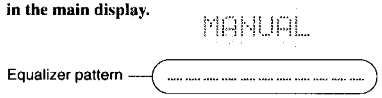
D.CLUB:	Increases resonance and bass.
HALL:	Adds depth and brilliance to the sound.
STADIUM:	Adds clarity and spreads the sound, like in an outdoor stadium.
ROCK:	Boosts low and high frequency. Good for acoustic music.
POP:	Good for vocal music.
CLASSIC:	Good for classical music.
MANUAL:	Your individual mode stored in memory. See "Creating Your Own Sound Mode — MANUAL Mode."
OFF:	Cancels the sound mode.

Creating Your Own Sound Mode — MANUAL Mode

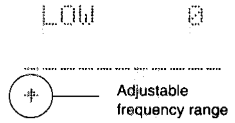
You can create and store your own sound mode only by using the buttons and controls on the unit.

- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

1 **Press SOUND repeatedly until "MANUAL" appears in the main display.**

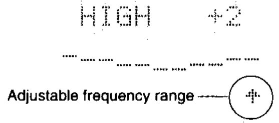


2 **Press SET.**



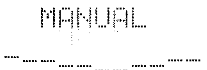
3 **Adjust the equalizer pattern.**

1) **Press CURSOR ← / → to select the frequency range to adjust (LOW, MID, HIGH).**
2) **Rotate MULTI JOG to adjust the level (–3 to +3) of the selected frequency range.**



3) **Repeat steps 1) and 2) to adjust the level of the other frequency ranges.**

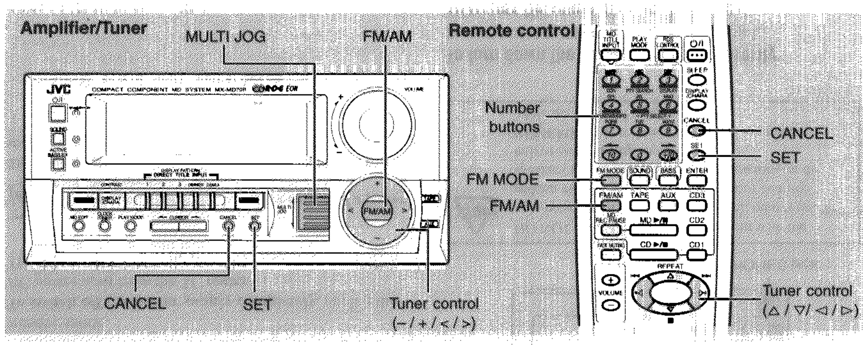
4 **Press SET again.**
The equalizer pattern you have created are stored in memory.



To use your own sound mode

Select MANUAL when using the sound modes. See "Selecting the Sound Modes."

Listening to FM and AM Broadcasts



When using the number buttons on the remote control, make sure that they are ready for tuner operations.

- Pressing FM/AM on the remote control makes the number buttons ready for tuner operations.

Tuning in a Station

1 **Press FM/AM.**
The unit automatically turns on and tunes in the previously tuned station (either FM or AM).
- Each time you press the button, the band alternates between FM and AM.

2 **On the unit:**
Press and hold + or – of the tuner control buttons.
On the remote control:
Press and hold △ or ▽ of the tuner control buttons.
The unit starts searching stations and stops when a station of sufficient signal strength is tuned in.
If a program is broadcast in stereo, the STEREO indicator also lights.

To stop during searching, press + / – (or △ / ▽) of the tuner control buttons again.

notes **When you press + / – (or △ / ▽) briefly and repeatedly**
The frequency changes step by step.

To change the FM reception mode

When an FM stereo broadcast is hard to receive or noisy, press FM MODE on the remote control so that "MONO" appears in the main display. Reception improves.

To restore the stereo effect, press FM MODE again so that "AUTO" appears in the main display.
In this stereo mode, you can hear stereo sounds when a program is broadcast in stereo.

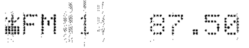
Presetting Stations

You can preset 30 FM and 15 AM (MW/LW) stations at random.
In some cases, test frequencies have been already memorized for the tuner since the factory examined the tuner preset function before shipment. This is not a malfunction. You can preset the stations you want into memory by following the presetting method.

- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

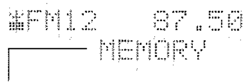
1 **Tune in the station you want to preset.**
- See "Tuning in a Station."

2 **Press SET.**
The current preset number starts flashing.



3 **Select a preset number.**
On the unit:
Rotate MULTI JOG, or press < or > of the tuner control buttons.
On the remote control:
Press ◁ or ▷ of the tuner control buttons.
- You can also use the number buttons. (Make sure that you have pressed FM/AM on the remote control before pressing the Number buttons.)
For preset number 5, press 5.
For preset number 15, press +10 then 5.
For preset number 20, press +10, then 10.
For preset number 30, press +10, +10, then 10.

4 **Press SET again.**
The tuned station in step 1 is stored in the preset number selected in step 3.
- Storing a new station on a used number erases the previously stored one.



"MEMORY" does not appear if you press SET on the remote control.

notes **When you unplug the AC power cord or if a power failure occurs**
The preset stations will be erased in a few days. If this happens, preset the stations again.

Tuning in a Preset Station

1 **Press FM/AM.**
The unit automatically turns on and tunes in the previously tuned station (either FM or AM).
- Each time you press the button, the band alternates between FM and AM.

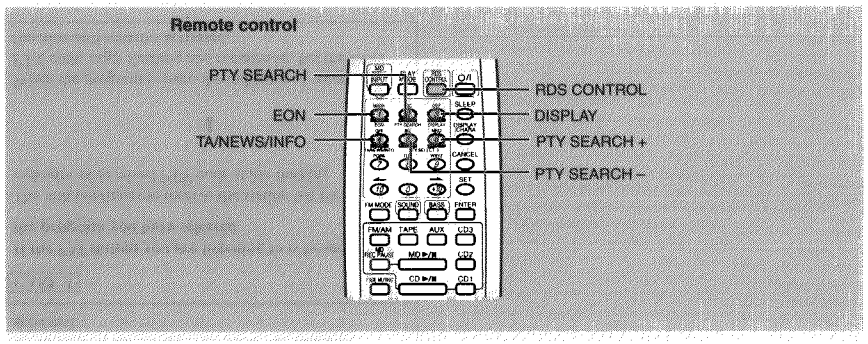
2 **Select a preset number.**
On the unit:
Rotate MULTI JOG, or press < or > of the tuner control buttons.
On the remote control:
Press ◁ or ▷ of the tuner control buttons.
- You can also use the number buttons. (Make sure that you have pressed FM/AM on the remote control before pressing the Number buttons.)
For preset number 5, press 5.
For preset number 15, press +10 then 5.
For preset number 20, press +10, then 10.
For preset number 30, press +10, +10, then 10.

To erase a preset station

The following procedure is only possible on the unit.

1 **Select a preset station number you want to erase.**
2 **Press CANCEL.**
The preset number starts flashing in the main display.
3 **Press SET.**
"CANCEL" appears in the main display, and the station frequency stored in the preset number is erased.

Receiving FM Stations with RDS



RDS allows FM stations to send an additional signal along with their regular program signals. For example, the stations send their station names, as well as information about what type of program they broadcast, such as sports or music, etc.

When tuned to an FM station which provides the RDS service, the RDS indicator lights up on the display.

With the unit, you can receive the following types of RDS signals.

PS (Program Service):
Shows commonly known station names.

PTY (Program Type):
Shows types of broadcast programs.

RT (Radio Text):
Shows text messages the station sends.

EON (Enhanced Other Networks):
Provides the information about the types of the programs sent by other RDS stations than the one being received.

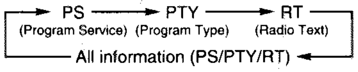
More about RDS
- Not all FM stations provide RDS signals, nor do all RDS stations provide the same services. If in doubt, check with local radio stations for details on RDS in your area.
- RDS may not work correctly if the received station is not transmitting the signals properly or if the signal strength is weak.

Changing the RDS Information

You can see RDS information on the display while listening to an FM station.
- RDS operations are possible only using the remote control.

1 Press RDS CONTROL.

2 Press DISPLAY.
- Each time you press the button, the display changes to show the following information:



If No PS, PTY, or RT signals are sent by a station
"NO PS," "NO PTY" or NO RT" appears in the main display.

If the unit takes time to show the RDS information received from a station
"WAIT PS", "WAIT PTY", or "WAIT RT" may appear on the display.

Searching for Programs by PTY Codes (PTY Search)

One of the advantages of RDS is that you can locate a particular kind of program by specifying the PTY codes.
- The PTY Search is applicable only to preset stations.
- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

To search for a program using the PTY codes, use the remote control:

1 Press RDS CONTROL.

2 Press PTY SEARCH.
"PTY SELECT" flashes in the main display.

3 Press PTY SELECT – / + to select a PTY code while "PTY SELECT" is flashing.
Each time you press the button, the PTY codes change as follows (refer also to the list on page 18):

NEWS ⇄ AFFAIRS ⇄ INFO ⇄ SPORT ⇄
EDUCATE ⇄ DRAMA ⇄ CULTURE ⇄
SCIENCE ⇄ VARIED ⇄ POP M ⇄ ROCK M ⇄
M.O.R. M ⇄ LIGHT M ⇄ CLASSICS ⇄
OTHER M ⇄ WEATHER ⇄ FINANCE ⇄
CHILDREN ⇄ SOCIAL A ⇄ RELIGION ⇄
PHONE IN ⇄ TRAVEL ⇄ LEISURE ⇄ JAZZ ⇄
COUNTRY ⇄ NATIONAL ⇄ OLDIES ⇄
FOLK M ⇄ DOCUMENT ⇄ TRAFFIC ⇄
NONE ⇄ (back to the beginning)

4 Press PTY SEARCH again.
While searching, "SEARCH" and the selected PTY code alternate on the display.
The unit searches 30 preset FM stations, stops when it finds the one you have selected, and tunes in that station.

To continue searching after the first stop:
Press PTY SEARCH again while the indications on the display are flashing.
If no program is found, "NOT FOUND" appears on the display and the unit returns to the last received station.

To stop searching any time during the process:
Press PTY SEARCH while searching.

Switching to a Program Type of Your Choice Temporarily

The EON function allows the unit to switch temporarily to a broadcast program of your choice (NEWS, TA, and/or INFO) from a different station except when you are listening to a non-RDS stations – some FM stations and AM (MW/LW) stations.
- The EON indicator lights while receiving a station with the EON code.
- EON function is applicable only to preset stations.

To activate the EON function, use the remote control:

1 Press RDS CONTROL.

2 Press EON.
The last EON data type selected — TA/NEWS/INFO — lights on the display window.

3 Press TA/NEWS/INFO repeatedly until the EON data type you want is selected.
Each time you press the button, the EON data types change as follows:

TA NEWS INFO → TA → NEWS → INFO → TA NEWS → NEWS INFO → TA INFO → (back to the beginning)

TA:	Traffic announcement
NEWS:	News
INFO:	Program the purpose of which is to impart advice in the widest sense.

To cancel the EON function, press EON again so that the TA/NEWS/INFO indicator goes off.
- If you cancel the EON function while receiving a program selected by the EON function, the unit goes back to the previously tuned station.

Continued

Continued

Continued

How the EON function actually works:

CASE 1

If there is no station broadcasting the program you have selected

The unit continues tuning in the current station.

↓

When a station starts broadcasting the program you have selected, the unit automatically switches to the station. The indicator of received PTY code starts flashing.

↓

When the program is over, "EON END" appears in the main display, and the unit goes back to the previously tuned station, but the EON function still remains activated.

CASE 2

If there is a station broadcasting the program you have selected

The unit tunes in the program. The indicator of received PTY code starts flashing.

↓

When the program is over, "EON END" appears in the main display, and the unit goes back to the previously tuned station, but the EON function still remains activated.

CASE 3

If the FM station you are listening to is broadcasting the program you have selected

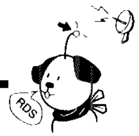
The unit continues to receive the station but the indicator of received PTY code starts flashing.

↓

When the program is over, the indicator of received PTY code stops flashing and remains lit, but the EON function still remains activated.

More about the EON function

- EON data sent from some stations may not be compatible with this unit.
- While listening to a program tuned in by the EON function, the station does not change even if another network station starts broadcasting a program of the same EON data.
- While listening to a program tuned in by the EON function, you can only use the EON and DISPLAY buttons as the tuner operation buttons.
- If the stations alternate intermittently between the station tuned by the EON function and the currently tuned station ("WAITING" flashes in the main display), press EON to cancel the EON function.
  If you do not press the button, the currently tuned station is received finally, and the indication of the EON data type flashing on the display disappears.
- While receiving a station with the EON code (the EON indicator lights on the display window), you cannot erase a preset station.

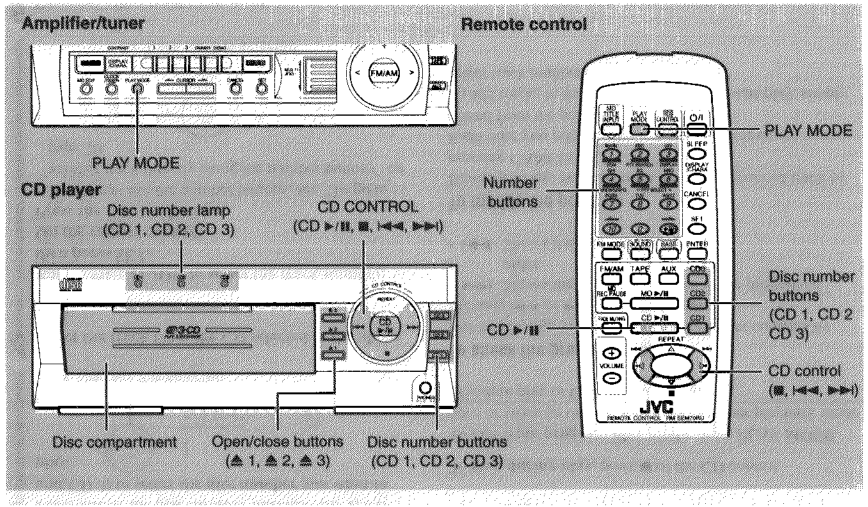


Description of the PTY codes:

NEWS:	News.
AFFAIRS:	Topical program expanding or enlarging upon the news — debate, or analysis.
INFO:	Program the purpose of which is to impart advice in the widest sense.
SPORT:	Program concerned with any aspect of sports.
EDUCATE:	Educational programs.
DRAMA:	All radio plays and serials.
CULTURE:	Programs concerning any aspect of national or regional culture, including language, theatre, etc.
SCIENCE:	Programs about natural sciences and technology.
VARIED:	Used for mainly speech-based programs like quizzes, panel games and personality interviews.
POP M:	Commercial music of current popular appeal.
ROCK M:	Rock music.
M.O.R. M:	Current contemporary music considered to be "easy-listening."
LIGHT M:	Instrumental music, and vocal or choral works.
CLASSICS:	Performances of major orchestral works, symphonies, chamber music, etc.
OTHER M:	Music not fitting into any of the other categories.
WEATHER:	Weather reports and forecasts.
FINANCE:	Stock Market reports, commerce, trading etc.
CHILDREN:	Programs targeted at a young audience.
SOCIAL A:	Programs about sociology, history, geography, psychology and society.
RELIGION:	Religious programs.
PHONE IN:	Involving members of the public expressing their views either by phone or at a public forum.
TRAVEL:	Travel information.
LEISURE:	Programs about recreational activities.
JAZZ:	Jazz music.
COUNTRY:	Songs which originate from, or continue the musical tradition of the American Southern States.
NATIONAL:	Current popular music of the nation or region in that country's language.
OLDIES:	Music from the so-called "golden age" of popular music.
FOLK M:	Music which has its roots in the musical culture of a particular nation.
DOCUMENT:	Program concerning factual matters, presented in an investigative style.
TRAFFIC:	Traffic announcement.
NONE:	Undefined.

Classification of the PTY codes for some FM stations may be different from the above list.

Playing Back CDs

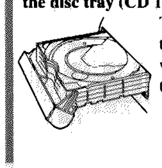


When using the remote control, make sure that it is ready for CD operations.

- Pressing CD 1, CD 2, CD 3, or CD ►/II on the remote control makes the remote control ready for CD operations.

Loading CDs

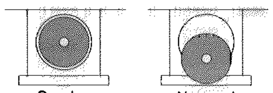
1 Press one of the open/close buttons (≜ 1 to ≜ 3) for the disc tray (CD 1 to 3) you want to load a CD onto.



The unit automatically turns on and the disc compartment comes out with the specified disc tray on the top.

CD1 OPEN

2 Place a disc correctly on the circle of the disc tray, with its label side up.



- When using a CD single (8 cm), place it on the inner circle of the disc tray.

3 Press the same open/close button (≜ 1 to ≜ 3) you have pressed in step 1.

The disc compartment closes, and the corresponding disc number lamp (CD 1 to CD 3) lights.

4 Repeat steps 1 to 3 to place other CDs.

When loading more than one CD continuously

Press the open/close button (≜ 1 to ≜ 3) for the next tray you want to place a CD onto, the disc compartment automatically closes and then opens with the next tray on the top.

About the disc number lamps (CD 1 to CD 3)

Each disc number lamp corresponds to the disc tray of the same number.

- It lights orange when the unit has recognized that there is a CD on the corresponding disc tray.
- It lights green when a CD on the corresponding disc tray is selected as the current disc or played back.

Continued

Playing Back the Entire Discs — Continuous Play

You can play CDs continuously.

1 Load CDs.

2 Press one of the disc number buttons (CD 1, CD 2 and CD 3) for the disc you want to play.

CD playback starts from the first track of the selected disc.

1 - 1 0:03

Disc No. Track No. Elapsed playing time

- Pressing CD ►/II instead of the disc number buttons starts playing back the CD whose disc number lamp lights green.

To stop during play, press ■ of the CD control.

To remove the disc, press the corresponding open/close buttons (≜ 1 to ≜ 3).

CD playback sequence

When 3 CDs are loaded in the disc compartment, they are played in one of the following sequences.

- When CD 1 is pressed : CD 1 ⇨ CD 2 ⇨ CD 3 (then stops)
- When CD 2 is pressed : CD 2 ⇨ CD 3 ⇨ CD 1 (then stops)
- When CD 3 is pressed : CD 3 ⇨ CD 1 ⇨ CD 2 (then stops)

* When only 2 CDs are loaded, they are played in the same order, but the disc tray without a CD is skipped.

Basic CD Operations

While playing a CD, you can do the following operations.

To exchange CDs during playback of another

Press the open/close button (≜ 1 to ≜ 3) corresponding to a disc number whose disc number lamp is lit orange to eject that disc tray and exchange the CD.

When CDs are exchanged during playback, playback stops after playing the last exchanged CD.

To stop playback for a moment

Press CD ►/II.

To resume play, press CD ►/II again.

To locate a particular point in a track

During play, press and hold I◄◄ or ►►I of the CD control.

- I◄◄ : Fast reverses the disc.
- ►►I : Fast forwards the disc.

To go to another track

Press I◄◄ or ►►I of the CD control repeatedly before or during playback.

- I◄◄ : Goes back to the beginning of the current or previous tracks.
- ►►I : Skips to the beginning of the next or succeeding tracks.

Rotating MULTI JOG on the unit also changes the tracks.

To go to another track directly using the number buttons

Pressing the number button(s) allows you to start playing the track number you want. (Make sure that you have pressed one of the following buttons — disc number buttons (CD 1, CD 2, CD 3) and CD ►/II — on the remote control before using the number buttons.)

Ex.: For track number 5, press 5.
For track number 15, press +10 then 5.
For track number 20, press +10, then 10.
For track number 32, press +10 , +10, +10, then 2.

Programming the Playing Order of the Tracks — Program Play

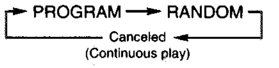
You can arrange the order in which the tracks play before you start playing. You can program up to 32 tracks.

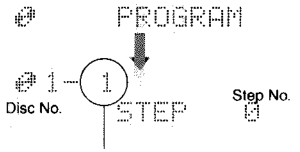
1 Load discs.

- If the current playing source is not the CD player, press CD ►/II, then ■ of the CD control before going to the next step.

2 Press PLAY MODE so that "PROGRAM" appears in the main display.

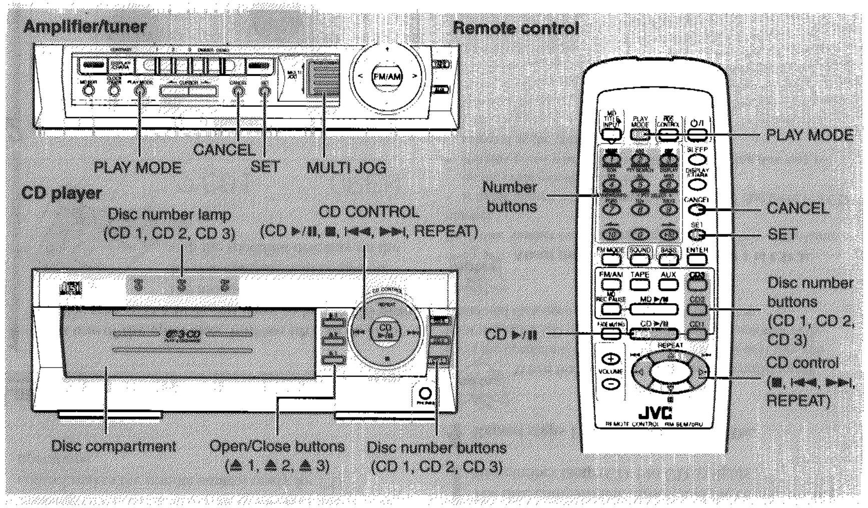
- Each time you press the button, play mode changes as follows:





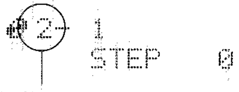
Continued

Continued



Continued

3 Press one of the disc number buttons (CD 1, CD 2, and CD 3) to select the disc number you want to play.



Ex. Disc No. 2 is selected

4 Select the track from the CD selected in the above step.

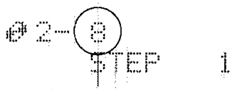
On the unit:

Rotate MULTI JOG to select the track number, then press SET.

On the remote control:

Press the number buttons.

- For how to use the number buttons, see "To go to another track directly using the number buttons" on page 20.



Ex. Track No. 8 is selected

5 Program other tracks you want.

- To program tracks from the same disc, repeat step 4.
- To program tracks from a different disc, repeat steps 3 and 4.

6 Press CD ▶/II.

The tracks are played in the order you have programed.

To stop during play, press ■ of the CD control.

To exit from program play mode, press PLAY MODE once or twice so that the unit enters another playback mode (Random play or Continuous play mode).

To check the program contents

Before playing, you can check the program contents by pressing I◀◀ or ▶▶I of the CD control.

- ▶▶I : Shows the programed tracks in the programed order.
- I◀◀ : Shows them in the reverse order.

To modify the program

Before playing, you can erase the last programed track by pressing CANCEL.

Each time you press the button, the last programed track is erased from the program.

To add tracks in the program before you start play, simply select track numbers you want to add.

If you try to program a 33rd step

"PROGRAM FULL" will appear in the main display.

If your entry is ignored

You have tried to program a track from an empty tray, or a track number that does not exist on the CD (for example, selecting track 14 on a CD that only has 12 tracks). Such entries are ignored.

Playing at Random — Random Play

The tracks of all loaded CDs will play at random.

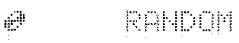
1 Prepare discs.

- If the current playing source is not the CD player, press CD ▶/II, then ■ of the CD control before going to the next step.

2 Press PLAY MODE repeatedly until "RANDOM" appears in the main display.

- Each time you press the button, play mode changes as follows:

→ PROGRAM → RANDOM → Canceled (Continuous play) →



3 Press CD ▶/II.

The tracks are played at random.

Random play ends when all the tracks are played once.

- Random play also ends when the disc compartment is opened.

To stop during play, press ■ of the CD control.

To exit from Random play mode, press PLAY MODE once or twice so that the unit enters another playback mode (Continuous play or Program play mode).

Repeating Tracks or CDs — Repeat Play

You can have all the CDs, the program or the individual track currently playing repeat as many times as you like.

To repeat play, press REPEAT during or before playing. Each time you press the button, Repeat play mode changes as follows, and appears in the main display:

→ REPEAT ALL → REPEAT 1CD → REPEAT 1 → Canceled (Continuous play) →

REPEAT ALL:	Repeats all the tracks on all the CDs (continuously or at random), or all the tracks in the program.
REPEAT 1CD*:	Repeats all the tracks on one CD.
REPEAT 1:	Repeats one track on one CD.

* REPEAT 1CD is not used for Program play and Random Play.

To cancel Repeat play, press REPEAT repeatedly until no REPEAT indication (REPEAT ALL, REPEAT 1CD, or REPEAT 1) lights on the display window.

- REPEAT 1CD is also canceled when you press PLAY MODE to change the play mode.

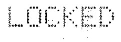
Prohibiting Disc Ejection — Disc Lock

You can prohibit CD and MD ejection from the unit and can lock discs.

- This operation is only possible using the unit.

To prohibit disc ejection, press ≜ 1 while holding ■ of the CD control with the unit set in standby mode.

"LOCKED" appears for a while, and the loaded discs (both CDs and MD) are locked.

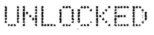


If you try to eject the locked discs

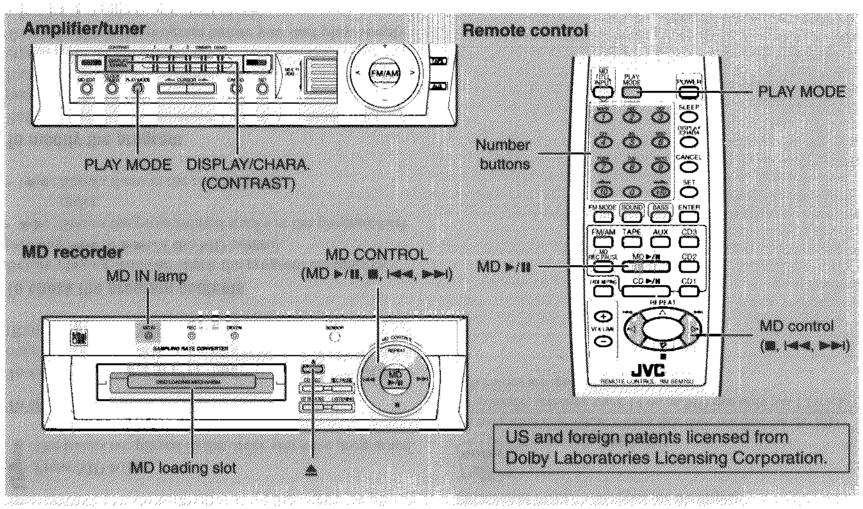
"LOCKED" appears to inform you that the Disc Lock is in use.

To cancel the prohibition and unlock the discs, press ≜ 1 again while holding ■ of the CD control with the unit set in standby mode.

"UNLOCKED" appears for a while, and the loaded discs (both CDs and MD) are unlocked.



Playing Back an MD



US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

When using the remote control, make sure that it is ready for MD operations.

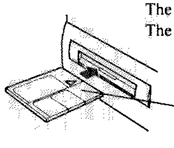
- Pressing MD ►/II on the remote control makes the remote control ready for MD operations.

Playing Back the Entire MD — Continuous Play

You can play an MD continuously.

1 Insert an MD into the MD loading slot.

The MD is pulled in automatically.
The MD IN lamp lights.



Insert an MD in the same way as indicated on the MD.

24 65:24 TOTAL

Total Track No. Total Playing time

(After a few seconds)

1 3:14

Current Track No. Playing time of the current track

2 Press MD ►/II.

MD playback starts from the first track.

1 0:03

Track No. Elapsed playing time

To stop during play, press ■ of the MD control.

To remove the disc, press ▲.

If the MD or track has a title

The title will be shown at the lower portion of the main display. (If a title is long and cannot be shown at a time, the unit scrolls the title to show the entire title.)

Basic MD Operations

While playing an MD, you can do the following operations.

To stop playback for a moment

Press MD ►/II.

To resume play, press MD ►/II again.

Continued

To locate a particular point in a track

During play, press and hold I◄◄ or ►►I of the MD control.

- I◄◄ : Fast reverses the disc.
- ►►I : Fast forwards the disc.

To go to another track

Press I◄◄ or ►►I of the MD control repeatedly before or during playback.

- I◄◄ : Goes back to the beginning of the current or previous tracks.
- ►►I : Skips to the beginning of the next or succeeding tracks.

Rotating MULTI JOG on the unit also changes the tracks.

To go to another track directly using the number buttons

Pressing the number button(s) allows you to start playing the track number you want. (Make sure that you have pressed MD ►/II on the remote control before using the Number buttons.)

Ex.: For track number 5, press 5.
For track number 15, press +10 then 5.
For track number 20, press +10, then 10.
For track number 32, press +10 , +10, +10, then 2.

To change the display Indications

The main display can show 4 track titles at a time.
Each time you press DISPLAY/CHARA. (CONTRAST), the indications in the main display changes as follows:

Normal indication mode

2 0:22
MY SONG

↕

4 track title indication mode

2 MY SONG
3 NO TITLE
4 MOON LIGH
5 NO TITLE

If a track title cannot be shown at a time while in 4 track title indication mode

The unit scrolls the title. However, if it consists of more than 32 characters, the entire title cannot be shown.

If you change the tracks quickly while in 4 track title indication mode

The unit cannot catch up with the changing speed and, therefore, cannot show the track titles correctly.

Programming the Playing Order of the Tracks — Program Play

You can arrange the order in which the tracks play before you start playing. You can program up to 32 tracks.

1 Insert an MD.

- If the current playing source is not the MD recorder, press MD ►/II, then ■ of the MD control before going to the next step.

2 Press PLAY MODE so that "PROGRAM" appears in the main display.

- Each time you press the button, play mode changes as follows:

→ PROGRAM → RANDOM → Canceled (Continuous play) →

PROGRAM

↓

1 0:00
STEP 0
TOTAL

Track No. Step No.

3 Select the track.

On the unit:

Rotate MULTI JOG to select the track number, then press SET.

On the remote control:

Press the number buttons.

- For how to use the number buttons, see "To go to another track directly using the number buttons."

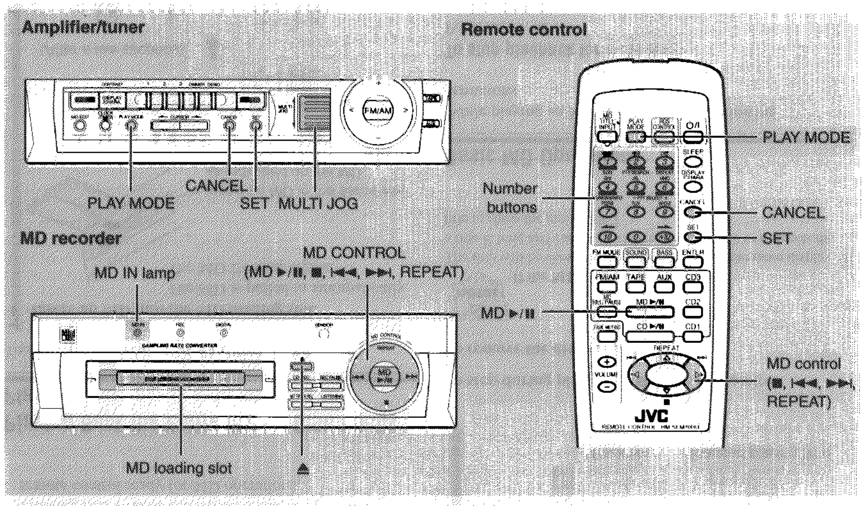
5 3:29
STEP 1
TOTAL

Ex. Track No. 5 is selected

- If the selected track has a title, it will be shown at the lower portion of the main display. (If the title is long and cannot be shown at a time, the unit scrolls the title to show the entire title)

Continued

Continued



Continued

4 **Repeat step 3 to program other tracks you want.**

5 **Press MD ►/❚❚.**
The tracks are played in the order you have programed.

To stop during play, press ■ of the MD control.

To exit from Program play mode, press PLAY MODE once or twice so that the unit enters another playback mode (Random play or Continuous play mode).

To check the program contents

Before playing, you can check the program contents by pressing ⏮ or ⏭ of the MD control.
- ⏭ : Shows the programmed tracks in the programmed order.
- ⏮ : Shows them in the reverse order.

To modify the program

Before playing, you can erase the last programed track by pressing CANCEL.
Each time you press the button, the last programed track is erased from the program.
To add tracks in the program before you start play, simply select track numbers you want to add.

notes **If you try to program a 33rd step**
"PROGRAM FULL" will appear on the display.

notes **If your entry is ignored**
You have tried to program a track that does not exist on the MD (for example, selecting track 14 on an MD that only has 12 tracks). Such entries are ignored.

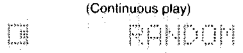
Playing at Random — Random Play

The tracks of the loaded MD will play at random.

1 **Insert an MD.**
- If the current playing source is not the MD recorder, press MD ►/❚❚, then ■ of the MD control before going to the next step.

2 **Press PLAY MODE repeatedly until "RANDOM" appears in the main display.**
- Each time you press the button, play mode changes as follows:

→ PROGRAM → RANDOM → Canceled (Continuous play)



3 **Press MD ►/❚❚.**
The tracks are played at random.
Random play ends when all the tracks are played once.
- Random play also ends when the MD is ejected.

To stop during play, press ■ of the MD control.

To exit from Random play mode, press PLAY MODE once or twice so that the unit enters another playback mode (Continuous play or Program play mode).

Repeating Tracks — Repeat Play

You can have all the tracks, the program or the individual track currently playing repeat as many times as you like.

To repeat play, press REPEAT during or before playing. Each time you press the button, Repeat play mode changes as follows, and appears in the main display:

→ REPEAT ALL → REPEAT 1 → Canceled (Continuous play)

REPEAT ALL:	Repeats all the tracks in the MD (continuously or at random), or all the tracks in the program.
REPEAT 1:	Repeats one track.

To cancel Repeat play, press REPEAT repeatedly until no REPEAT indication (REPEAT ALL or REPEAT 1) lights on the display window.

To prohibit disc ejection — Disc Lock

You can prohibit CD and MD ejection from the unit, and can lock discs.

See page 22 for details.

Recording onto an MD

Things to Know Before You Start Recording

- **It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.**
- When you record onto partially recorded MD, its contents are not erased or overwritten. The recording starts from the point following the last recorded track of the MD.
  If you want to record on such an MD from the beginning, you have to erase its contents first (see "ALL ERASE Function" on page 37).
- The recording level is automatically set correctly, so it is not affected by the VOLUME control. Thus, during recording you can adjust the sound you are actually listening to without affecting the recording level.
- While recording, you can hear sound modes and/or the active bass extension effect through the speakers or headphones. However, the sound is recorded without these effects (see page 12).

About the track marks

When playing an MD, you can move among the tracks using MULTI JOG or ◀◀ / ▶▶| of the MD control, or even select directly a track using the remote control.
You can do this because there is a mark recorded at the front of each track enabling you to locate the track. This mark is called a "**track mark**" and the portion between two adjacent track marks is called a "**track**."

- **When recording from a digital source such as the CD player,** a track mark is recorded automatically at the beginning of each track.
- **When recording from an analog source such as FM/AM broadcasts,** no track mark is recorded on the MD. This means that, when playing this MD, the MD recorder will regard the entire recording as one track (track 1). You will not be able to select directly a song or navigate through songs.

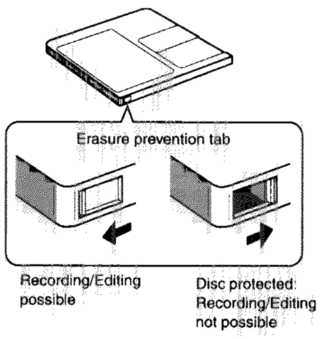
  However, if there is a blank of 3 seconds or more, the MD recorder will consider it as a blank separating 2 tracks and consequently put a track mark.

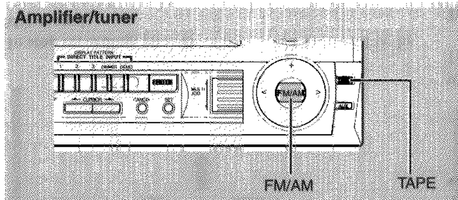
To put a track mark manually while recording an analog source, press SET at the place you want to put a track mark.

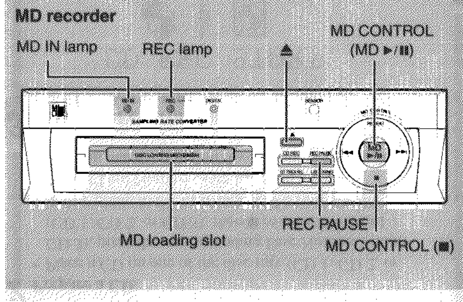
To add a track mark after recording is over, you can use the DIVIDE function (see page 33).

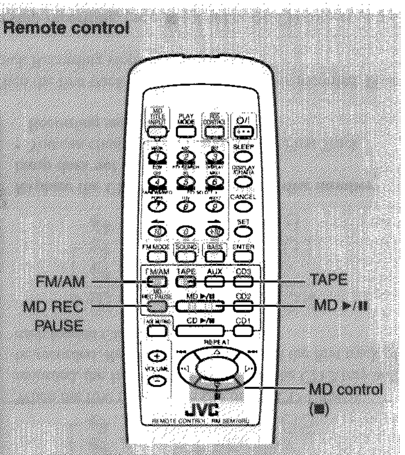
To avoid erasing important recordings

Recordable MDs have an erasure prevention tab so that important recordings are not accidentally erased. When you finish recording or editing, slide open the erasure prevention tab on the cartridge side surface. New recording or editing is now no longer possible.
To do re-recording or editing, return the tab to the closed position.


Erasure prevention tab
Recording/Editing possible
Disc protected: Recording/Editing not possible







When using the remote control, make sure that it is ready for MD operations.

- Pressing MD ▶/II on the remote control makes the remote control ready for MD operations.

Recording FM/AM Broadcasts or from the Cassette Deck

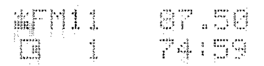
You can record FM/AM broadcasts or sounds from the cassette deck connected to the TAPE jacks on the rear.

1 **Insert a recordable MD.**
The MD IN lamp lights.

2 **Start playing the source — FM, AM, or cassette deck connected to the TAPE jacks.**
- When recording an FM/AM broadcast, press FM/AM, then tune into a station you want.
- When recording from the cassette deck, press TAPE to select it as the playback source.

3 **Press REC PAUSE on the unit (or MD REC PAUSE on the remote control).**
The REC lamp on the unit starts flashing.

Ex.: When recording an FM station



Remaining time for recording

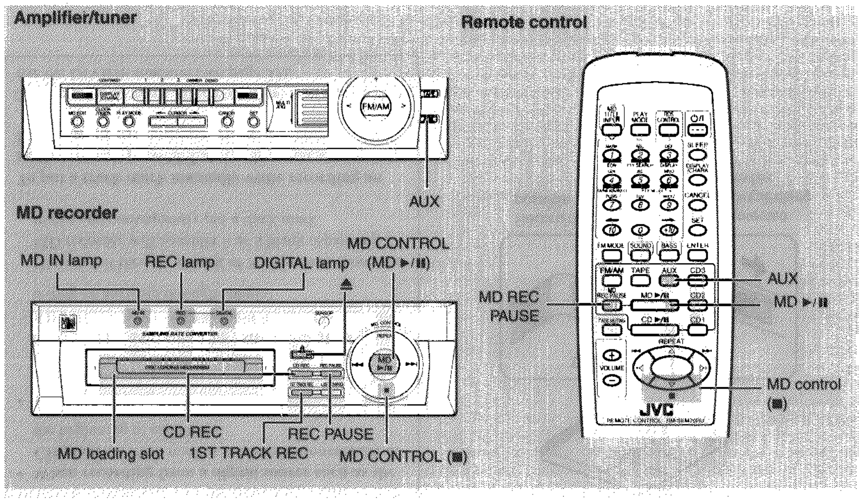
4 **Press MD ▶/II.**
The REC lamp stops flashing and remains lit, and recording starts.

To stop recording, press ■ of the MD control.

To stop recording temporarily, press REC PAUSE (or MD REC PAUSE) again.
To resume recording, press MD ▶/II again.

To remove the MD, press ▲.

Continued



Recording from the External (AUX) Equipment

Both analog and digital recording is possible from the external equipment connected to the AUX jacks.

For digital recording: Connect;

- Between the optical digital output terminal on the other equipment and the AUX DIGITAL IN OPTICAL terminal, by using an optical digital cord (not supplied).
- Between the audio output jacks on the other equipment and the AUX jacks, by using an audio cord (not supplied).

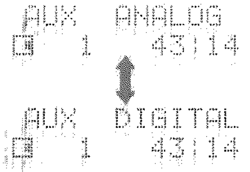
1 Insert a recordable MD.
The MD IN lamp lights.

2 Press AUX once, then start playing the source.

3 Press REC PAUSE on the unit (or MD REC PAUSE on the remote control).
The REC lamp on the unit starts flashing.

4 Press AUX again.

- Each time you press the button, analog or digital input is selected alternately.



- If you select the digital input, the DIGITAL lamp on the unit lights.

DIGITAL: Enables digital recording through the optical digital cord connected to the AUX DIGITAL IN OPTICAL terminal.
A sampling rate converter built in this unit allows you to record from a digital device whose sampling frequency is 32 kHz, 44.1 kHz, or 48 kHz.

ANALOG: Enables analog recording through the audio cord connected to the AUX jacks.

5 Press MD ▶/❚❚.
The REC lamp stops flashing and remains lit, and recording starts.

To stop recording, press ■ of the MD control.

To stop recording temporarily, press REC PAUSE (or MD REC PAUSE) again.
To resume recording, press MD ▶/❚❚ again.

To remove the MD, press ⏏.

Recording CDs

You have 3 methods to record from a CD onto an MD.

- **Synchronized Recording** — Records the entire CD or the program you have made.
- **First Track Recording** — Records the first track of each CD.
- **Listening Edit Recording** — Allows you to make a program while listening to the CD.

Synchronized Recording

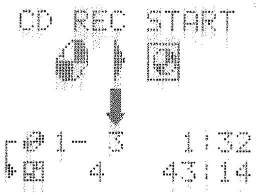
This is the easiest way of CD recording. Only by pressing CD REC, you can start playing a CD and recording on an MD.

1 Insert a recordable MD.
The MD IN lamp lights.

2 Prepare a CD.

- Place a CD on one of the disc tray (CD 1, CD 2, or CD 3), press the corresponding Disc Number button (CD 1, CD 2, or CD 3), then ■ of the CD control before going to the next step. Make sure that the correct Disc Number lamp lights on the unit.
- You can make a program if you want (see page 20).

3 Press CD REC on the unit.
The REC and DIGITAL lamps on the unit light.



To stop recording, press ■ (of either the CD control or the MD control).

To record a single track while playing a CD
Press CD REC while playing back a CD track you want to record.
The playback of that CD track is stopped, and the same track starts playing from the beginning again. This time, the MD recorder starts recording the CD track.

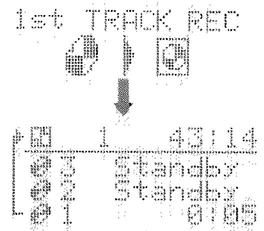
First Track Recording

First Track Recording allows you to record the first track of each loaded CD. You can, for example, make a directory of all your best CDs.

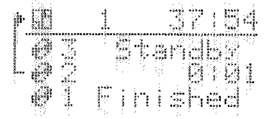
1 Prepare CDs, and a recordable MD.

- Always place a CD on the CD 1 tray. If not, this function does not work.

2 Press 1ST TRACK REC.
The REC and DIGITAL lamps light, and First Track Recording starts from the CD on the CD 1 tray.



When the first track of the CD on the CD 1 tray is recorded, the first track of the CD on the CD 2 tray will be recorded. Recording continues until the first track of each loaded CD is recorded.

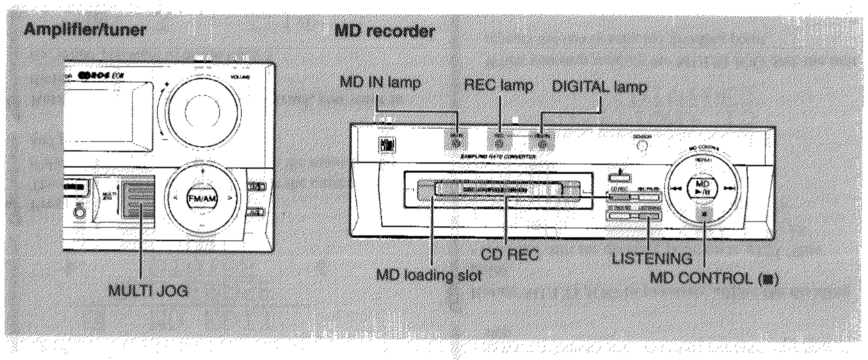


3 Replace the CDs on the trays whose disc number lamp does not light green.

- You can change CDs to continue the First Track Recording using more than 3 CDs.

When the first track of the last loaded CD is recorded, First Track Recording stops.

To stop recording, press ■ (of either the CD control or the MD control).


Amplifier/tuner
MD recorder
MD IN lamp
REC lamp
DIGITAL lamp
FM/AM
MULTI JOG
MD loading slot
CD REC
LISTENING
MD CONTROL (■)

Listening Edit Recording

Listening Edit Recording allows you to make a program while listening and checking each track of the loaded CDs, then to start recording the program.

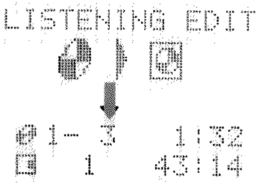
- You can program up to 32 tracks.

1 **Prepare CDs, and a recordable MD.**

- Always place a CD on the CD 1 tray. If not, this function does not work.

2 **Press LISTENING.**

Listening Edit starts from the CD on the CD 1 tray.


LISTENING EDIT
1- 3 1:32
1 43:14

Remaining time for recording

3 **Decide if you want to include the current track in the program or skip it.**

- **To include the current playing track in the program,** press LISTENING again. The current track is programed ("Memory" appears for a while) and the next track starts playing. (If the last track of a CD is programed, the first track of the next CD starts playing.)
- **To skip the current track,** rotate MULTI JOG downward or press ►►| of the CD control. The current playing track is not programed and the next track starts playing.

If you do not either press the button or rotate MULTI JOG, the unit will play the same track repeatedly.

4 **Repeat step 3 to program other tracks.**

When you finish checking all CDs or if there is no more remaining time for recording on the MD, Listening Edit Recording starts automatically.
The REC and DIGITAL lamps light.

To stop any time during editing process and start recording, press CD REC.

To stop recording, press ■ (of either the CD control or the MD control).

To erase the program, press ■ of the CD control while checking the contents of the loaded CDs.

To modify the program
Before you start recording (or move to the next disc programming), you can go back to a previous track of the currently programming disc by pressing |◄◄ of the CD control (programmed tracks, up to the track you have returned to, are erased from the program).
Start programming from that track again.

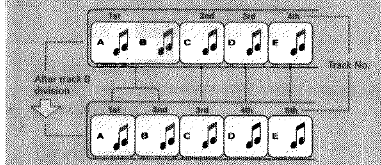
- By rotating MULTI JOG downward, you can also go back to a previous track of the currently programming disc.

Editing MDs

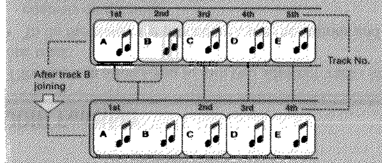
Introducing MD Editing Functions

A recorded MD can be edited in many ways. The MD editing functions include dividing, joining, moving, erasing a single track, erasing the entire disc, and more than one of them can be combined as required.

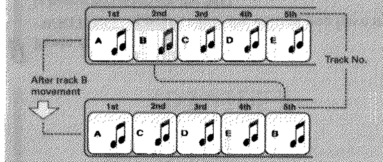
Dividing a track (DIVIDE) : Page 33
This function divides a track by adding a track marking(s) in the desired point(s) in the middle or where you want to search later.


1st
2nd
3rd
4th
A
B
C
D
E
Track No.
After track B division
1st
2nd
3rd
4th
5th

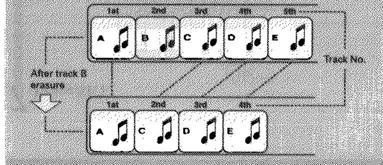
Joining a track (JOIN) : Page 34
This function joins two adjacent tracks into a single track by deleting a track marking.


1st
2nd
3rd
4th
5th
A
B
C
D
E
Track No.
After track B joining
1st
2nd
3rd
4th

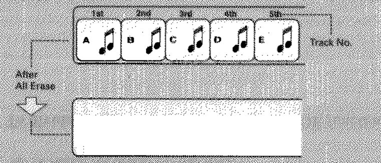
Moving a track (MOVE) : Page 35
This function moves a track by reordering the track numbers.


1st
2nd
3rd
4th
5th
A
B
C
D
E
Track No.
After track B movement

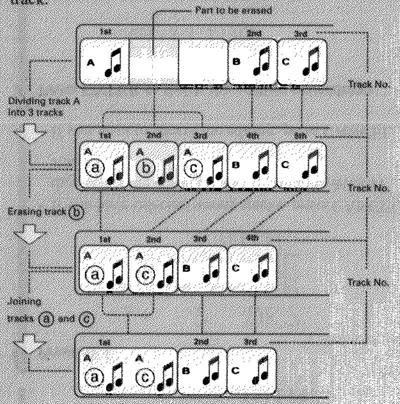
Erasing a track (ERASE) : Page 36
This function erases a specified track. After the erasure, the subsequent tracks are justified and their track numbers are decremented automatically.


1st
2nd
3rd
4th
5th
A
B
C
D
E
Track No.
After track B erasure

Erasing all tracks (ALL ERASE) : Page 37
This function erases data in a disc entirely.

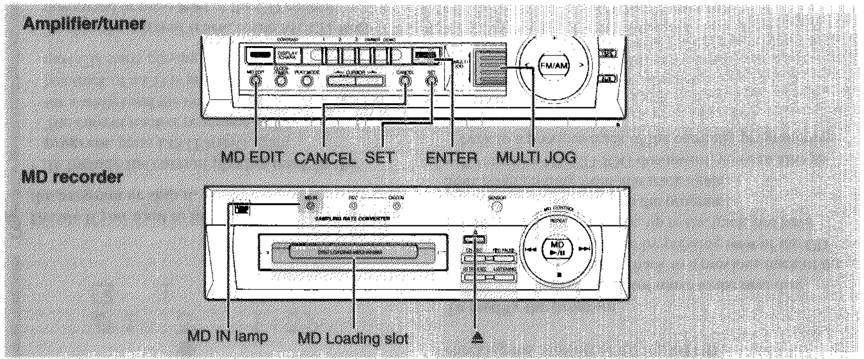

1st
2nd
3rd
4th
5th
A
B
C
D
E
Track No.
After All Erase

Combining MD editing functions
By combining "DIVIDE", "ERASE" and "JOIN", for example, it is possible to erase only a part of an existing track.


Part to be erased
1st
2nd
3rd
4th
5th
A
B
C
ⓐ
ⓑ
ⓒ
Track No.
Dividing track A into 3 tracks
Erasing track ⓑ
Joining tracks ⓐ and ⓒ

You can also assign titles to MDs and/or tracks (See page 38.)
A title can be assigned to a track or disc. Once a title is assigned, it is displayed in later playback for confirmation.
Each title can be composed of up to 64 characters, and can be input using alphabetic characters (uppercase and lowercase), symbols and numerals.

Continued



DIVIDE Function

This function allows you to divide one track into two separate tracks. It is useful, for example, when you want to add track marks at a certain point within a track or if you want to separate a recording.

- To do the following procedures, use the buttons and controls on the unit.
- To stop any time during editing process, press MD EDIT.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights.

2 Press MD EDIT.
The MD recorder enters editing mode (with DIVIDE function selected).

MD EDIT
ALL ERASE
DIVIDE
JOIN

3 Press SET.
The information of the first track (or the current track, if during play) of the MD appears in the main display, and playback starts.

4 Rotate MULTI JOG to select the track you want to divide.
Ex. When you want to divide track 3

3 3:14
MY SONG

<DIVIDE>

- If you have selected a wrong track, press CANCEL, then select the correct track.

5 Press SET when you find the point where you want to divide the track.
The MD recorder repeats the selected point — a portion of 3 seconds length following the dividing point.

3 0:00
MY SONG
POSITION 0
<DIVIDE>

- If the dividing point is satisfactory, go to step 7.
- If the dividing point is not satisfactory, go to the next step

6 Rotate MULTI JOG to precisely adjust the dividing point.
- You can shift the dividing point up to ±128. This range (±128) corresponds to approximately ±8 seconds from the original point (Position 0).

3 0:00
MY SONG
POSITION+ 15
<DIVIDE>

When you stop rotating the MULTI JOG dial, the unit repeats the newly selected dividing point.

- When you find the right position, go to the next step.

7 Press SET.

OK?
YES→ ENTER
NO→CANCEL
<DIVIDE>

- If you want to cancel the editing, press CANCEL.

8 Press ENTER to finish the editing procedures.

EDITING

<DIVIDE>

9 Press ▲ to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

To join the divided tracks again, see the JOIN function.

JOIN Function

This function allows you to join two adjacent tracks into one track.

- To do the following procedures, use the buttons and controls on the unit.
- To stop any time during editing process, press MD EDIT.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights.

2 Press MD EDIT.
The MD recorder enters editing mode (with DIVIDE function selected).

MD EDIT
ALL ERASE
DIVIDE
JOIN

3 Rotate MULTI JOG until "JOIN" is selected.

MD EDIT
DIVIDE
JOIN
MOVE

4 Press SET.

5 Rotate MULTI JOG to select the two adjacent tracks you want to join.
Ex.: When joining tracks 1 and 2

1 MINI
2 MOON LIG
3 NO TITLE
<JOIN>

6 Press SET.

1+ 2 OK?
YES→ ENTER
NO→CANCEL
<JOIN>

- If you have selected wrong tracks, press CANCEL, then select the correct tracks by rotating MULTI JOG.
- If you want to cancel the editing, press CANCEL.

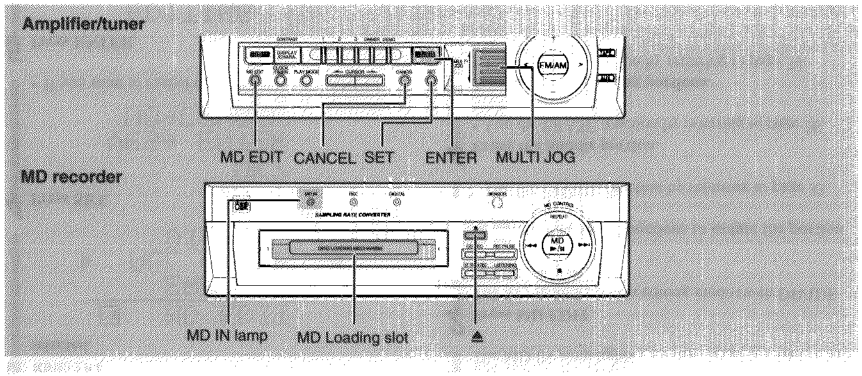
7 Press ENTER to finish the editing procedures.

EDITING

<JOIN>

8 Press ▲ to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

To divide the joined tracks, see the DIVIDE function.



MOVE Function

This function allows you to move a track to the position you prefer. It is useful to change the order of the tracks as you like.

- To do the following procedures, use the buttons and controls on the unit.
- To stop any time during editing process, press MD EDIT.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights.

2 Press MD EDIT.
The MD recorder enters editing mode (with DIVIDE function selected).

```
 ▣  MD EDIT
   ALL ERASE
 ▶  DIVIDE    ◀
     JOIN
```

3 Rotate MULTI JOG until "MOVE" is selected.

```
 ▣  MD EDIT
     JOIN
 ▶   MOVE     ◀
     ERASE
```

4 Press SET.

5 Rotate MULTI JOG to select the track you want to move.
Ex.: When moving track 2

```
     1 MINI
 ▶   2 MOON LIG◀
     3 NO TITLE
       <MOVE>
```

6 Press SET.

```
     1 MINI
 ▶   2↙MOON LIG◀
     3 NO TITLE
       <MOVE>
```

- If you have selected a wrong track number, press CANCEL, then select the correct track number again.

7 Rotate MULTI JOG to select the position where you want to move the track.
Ex.: When moving to the track 4 position

```
     3 NO TITLE
 ▶   4 EVE      ◀
     5 HOW EVER
       <MOVE>
```

8 Press SET.

```
 2→  4   OK?
 YES→ ENTER
 NO→CANCEL
   <MOVE>
```

- If you have selected wrong tracks, press CANCEL, then select the correct tracks by rotating MULTI JOG.
- If you want to cancel the editing, press CANCEL.

9 Press ENTER to finish the editing procedures.

```
 EDITING

   <MOVE>
```

10 Press ▲ to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

ERASE Function

This function allows you to erase an unwanted track.

- To do the following procedures, use the buttons and controls on the unit.
- To stop any time during editing process, press MD EDIT.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights.

2 Press MD EDIT.
The MD recorder enters editing mode (with DIVIDE function selected).

```
 ▣  MD EDIT
   ALL ERASE
 ▶  DIVIDE    ◀
     JOIN
```

3 Rotate MULTI JOG until "ERASE" is selected.

```
 ▣  MD EDIT
     MOVE
 ▶   ERASE    ◀
   ALL ERASE
```

4 Press SET.

```
 ▶   1 MINI     ◀
     2 MOON LIG
       <ERASE>
```

5 Rotate MULTI JOG to select the track you want to erase.

6 Press SET.

```
     1 MINI
 ▶   2▨MOON LIG◀
     3 NO TITLE
       <ERASE>
```

- If you have selected a wrong track number, press CANCEL, then select the correct track number.

7 Repeat steps 5 and 6 if you want to erase more tracks (up to 16).

8 Press ENTER to finish your selection of tracks to erase.

```
        OK?
 YES→ ENTER
 NO→CANCEL
```

- If you want to cancel the editing, press CANCEL.

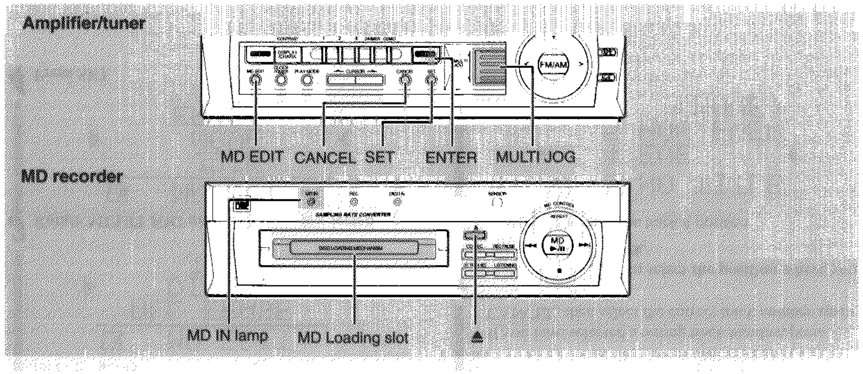
9 Press ENTER again.

```
 EDITING

   <ERASE>
```

10 Press ▲ to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

Continued



ALL ERASE Function

This function allows you to erase all the tracks on an MD.

- To do the following procedures, use the buttons and controls on the unit.
- To stop any time during editing process, press MD EDIT.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights.

2 Press MD EDIT.
The MD recorder enters editing mode (with DIVIDE function selected).

3 Rotate MULTI JOG until "ALL ERASE" is selected.

MD EDIT
ERASE
▶ ALL ERASE ◀
DIVIDE

4 Press SET.

OK?
YES→ ENTER
NO→CANCEL

- If you want to cancel the editing, press CANCEL.

5 Press ENTER.

EDITING
<ALL ERASE>

6 Press ▲ to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

Erasing a Portion of a Track

You can erase just a portion of one track by using the DIVIDE, ERASE and JOIN functions.

- To do the following procedures, use the buttons and controls on the unit.
- To stop any time during editing process, press MD EDIT.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights.

2 Press MD EDIT.
The MD recorder enters editing mode (with DIVIDE function selected).

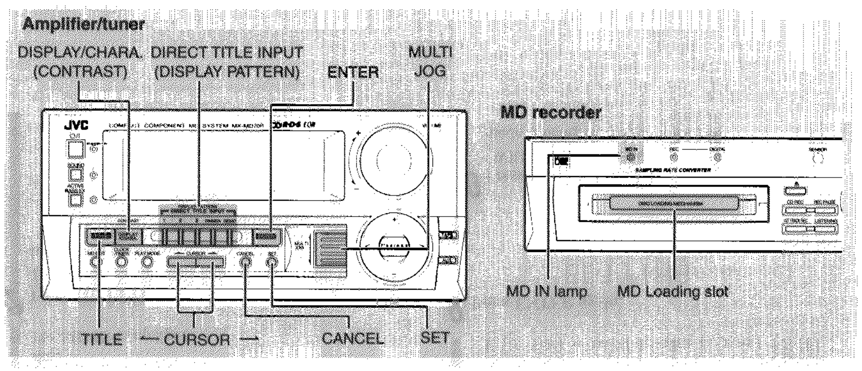
3 Divide a track into 3 portions to isolate the portion to erase.
- Use the DIVIDE function by referring to page 33.

4 Erase the middle portion.
- Use the ERASE function by referring to page 36.

5 Join the two remaining portions.
- Use the JOIN function by referring to page 34.

Assigning Titles to MDs

Continued



You can assign a name to each MD and to each track. Once a title is assigned, it is displayed in later playback for confirmation.

Each title can be composed of up to 64 characters, and can be input using alphabetic characters (uppercase and lowercase), symbols and numerals.

Assigning a Title Using the Unit

- To stop any time during the process, press TITLE.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights.

2 Press TITLE.
The MD recorder enters title entry mode.

- **Disc title entry indication (mode):** appears when you press TITLE while the disc information is shown in the main display.

DISC NOTITLE

<DISC TITLE?>

- **Track title entry indication (mode):** appears when you press TITLE while the track information is shown in the main display.

TR. NOTITLE

< 1 TITLE?>

3 Rotate MULTI JOG to change the title entry mode.
- Title entry mode changes as follows:

Disc title ←→ 1st track title ←→ 2nd track title
Last track title ←— •••••• —→ 3rd track title

TR. NOTITLE

< 3 TITLE?>

Ex.: When selecting 3rd track title entry mode

4 Press SET to enter the selected title entry mode.

3 ▶ — Character entry position
> ? @
▶ A B C D E ◀
F G H I J

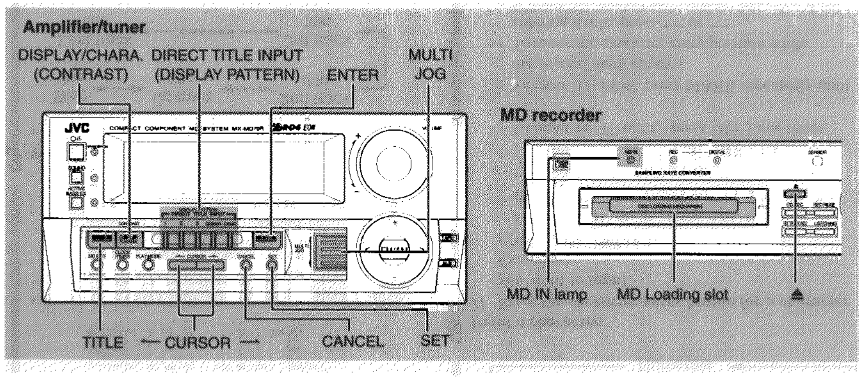
5 Press DISPLAY/CHARA. (CONTRAST) to select the character set you want.
- Each time you press the button, the character sets change as follows:

Capital letters & Symbols → Small letters & Symbols → Numerals & Symbols → Capital letters & Symbols

See the character set table on page 40 to know what characters and symbols you can use.

Continued

Continued

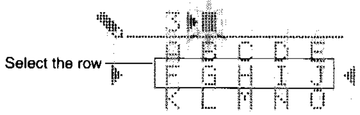


Continued

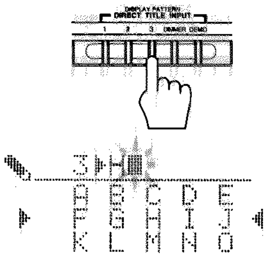
6 **Input a character.**

- EX. When entering "H"

1) **Rotate MULTI JOG to select the row where a character you want exists.**
   - In this example, select the row of "F G H I J."


Select the row
3
A B C D E
F G H I J
K L M N O

2) **Press one of the DIRECT TITLE INPUT buttons to select the character position in the row.**
   The selected character is input, and the character entry position moves to the next.
   - In this example, press 3 which corresponds to "H" in the row of "F G H I J."



- To move the character entry position while entering a title, press ← CURSOR →.
- If you have entered an incorrect character, press CANCEL to cancel the last entry.

7 **Repeat steps 5 and 6 to input other characters.**

- The main display can only show 7 characters at a time. If you enter the 8th character, the first character disappears, and so on.

8 **Press ENTER twice to finish title entry.**

- If you want to cancel the editing, press TITLE after pressing ENTER once in this step.

9 **Press ≜ to eject the MD.**

"WRITING" appears while the editing you have made is being recorded on the MD.

notes

You can assign titles during play or recording

- **During play: Entering a track title**
  The MD recorder repeats playback of the current track until you press ENTER twice in step 8 above. When you press it twice, MD stops play.
  Entering a disc title
  The MD recorder repeats playback of all tracks of the MD until you press ENTER twice in step 8 above. When you press it twice, MD stops play.
- **During recording: Entering a track title**
  The MD recorder continues recording even after you press ENTER twice in step 8 above. When you press it twice, a track title is assigned to the track where you have started the title entry.

Continued

Changing the Title

You can make a correction or change the title.

1 **Follow steps 1 to 4 of page 38.**

2 **Press ← CURSOR → to select the character you want to correct.**

- Make sure that the character you want to change is flashing.

3 **Press CANCEL to delete the character you have selected in the above step.**

4 **Input the correct character.**

1) Press DISPLAY/CHARA. (CONTRAST) to select the character set you want.
2) Rotate MULTI JOG then press one of the DIRECT TITLE INPUT buttons.

5 **Repeat steps 2 to 4 of the current procedure to correct more characters.**

6 **Press ENTER twice to finish correcting the title.**

- If you want to cancel the correction, press TITLE after pressing ENTER once in this step.

7 **Press ≜ to eject the MD.**

"WRITING" appears while the editing you have made is being recorded on the MD.

To erase all the characters

Press CANCEL repeatedly in step 3 above to erase all the characters, then go to step 6.

Available Characters

Capital letters & Symbols

A	B	C	D	E
F	G	H	I	J
K	L	M	N	O
P	Q	R	S	T
U	V	W	X	Y
Z	(Blank)			
(Blank)	!	"	#	$
%	&	'	(	)
*	+	,	–	.
/	:	;	<	=
>	?	@	_	\

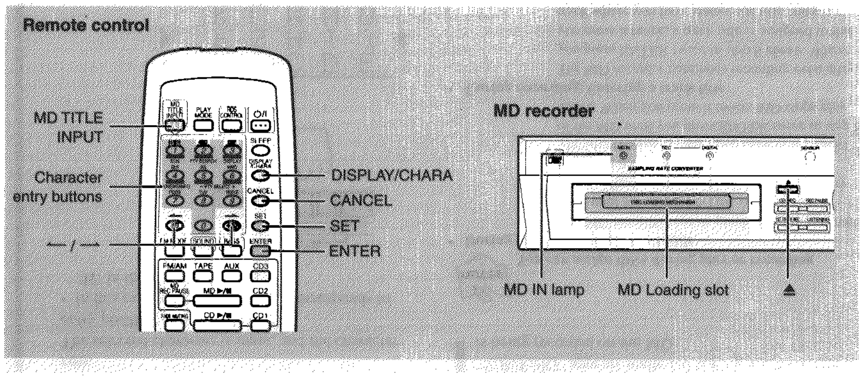
Small letters & Symbols

a	b	c	d	e
f	g	h	i	j
k	l	m	n	o
p	q	r	s	t
u	v	w	x	y
z	(Blank)			
(Blank)	!	"	#	$
%	&	'	(	)
*	+	,	–	.
/	:	;	<	=
>	?	@	_	\

Numerals & Symbols

0	1	2	3	4
5	6	7	8	9
(Blank)	!	"	#	$
%	&	'	(	)
*	+	,	–	.
/	:	;	<	=
>	?	@	_	\

Continued



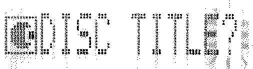
Assigning a Title Using the Remote Control

- To stop any time during the following process, press MD TITLE INPUT.

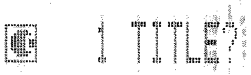
1 Insert an MD you want to edit into the MD loading slot on the unit.
The MD IN lamp lights.

2 Press MD TITLE INPUT.
The MD recorder enters title entry mode.

- **Disc title entry indication (mode):** appears when you press MD TITLE INPUT while the disc information is shown in the main display.

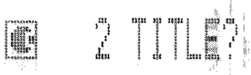


- **Track title entry indication (mode):** appears when you press MD TITLE INPUT while the track information is shown in the main display.

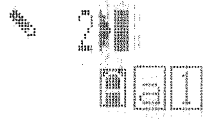


3 Press ← or → to change the title entry mode.
- Title entry mode changes as follows:

Disc title ←→ 1st track title ←→ 2nd track title
Last track title ←—●●●●●●—→ 3rd track title



4 Press SET to enter the selected title entry mode.



5 Press DISPLAY/CHARA. to select the character set you want.
- Each time you press the button, the character sets change as follows:

→ Capital letters → Small letters
Numerals ←

6 Input a character.
1) Press the character entry button for a character you want to input.
Examples:
- To input an "A" or "a," press ABC once.
  To input a "B" or "b," press ABC twice.
  To input a "C" or "c," press ABC three times.

  To input a "D" or "d," press DEF once.
  To input an "E" or "e," press DEF twice.
  To input an "F" or "f," press DEF three times.

  ....
- To input a symbol, press MARK repeatedly until the desired mark appears.
- To move the character entry position while entering a title, press ← or →.
- If you have entered an incorrect character, press CANCEL to cancel the last entry.

2) Press the button for the next character you want to input.
- If the next character you want to input is assigned to the same button you have just pressed in step 6-1), press → first to move the character entry position to right.

7 Repeat steps 5 and 6 to input other characters.
- The main display can only show 8 characters at a time. If you enter the 9th character, the first character disappears, and so on.

8 Press ENTER twice to finish the title entry.
- If you want to cancel the editing, press MD TITLE INPUT after pressing ENTER once in this step.

9 Press ≜ on the unit to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

notes
You can assign titles during play or recording
- **During play: Entering a track title**
  The MD recorder repeats playback of the current track until you press ENTER twice in step 8 above. When you press it twice, MD stops play.
  Entering a disc title
  The MD recorder repeats playback of all tracks of the MD until you press ENTER twice in step 8 above. When you press it twice, MD stops play.
- **During recording: Entering a track title**
  The MD recorder continues recording even after you press ENTER twice in step 8 above. When you press it twice, a track title is assigned to the track where you have started the title entry.

Changing the Title

You can make a correction or change the title.

1 Follow steps 1 to 4 of page 41.

2 Press ← or → to select the character you want to correct.
- Make sure that the character you want to change is flashing.

3 Press CANCEL to delete the character you have selected in the above step.

4 Input the correct character by pressing one of the text entry buttons.

5 Repeat steps 2 to 4 of the current procedure to correct more characters.

6 Press ENTER twice to finish correcting the title.
- If you want to cancel the correction, press MD TITLE INPUT after pressing ENTER once in this step.

7 Press ≜ on the unit to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

To erase all the characters
Press CANCEL repeatedly in step 3 above to erase all the characters, then go to step 6.

Available Characters

Capital letters

A	B	C	D	E
F	G	H	I	J
K	L	M	N	O
P	Q	R	S	T
U	V	W	X	Y
Z				

Small letters

a	b	c	d	e
f	g	h	i	j
k	l	m	n	o
p	q	r	s	t
u	v	w	x	y
z				

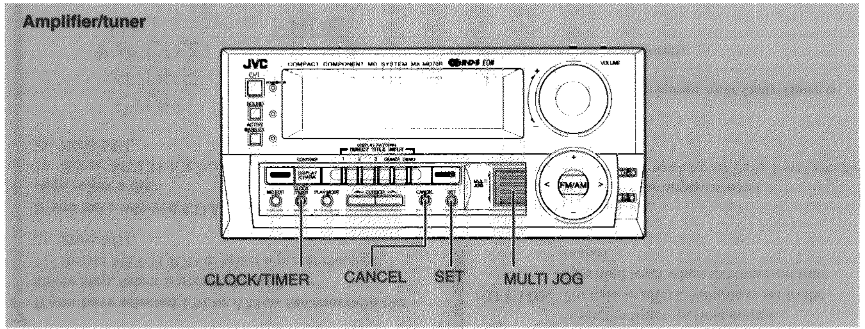
Numerals

0	1	2	3	4
5	6	7	8	9

Symbols

(Blank)	!	"	#	$
%	&	'	(	)
*	+	,	–	.
/	:	;	<	=
>	?	@	_	`

Using the Timers



There are three timers available — Recording Timer, Daily Timer, and Sleep Timer.
Before using these timers, you need to set the clock built in the unit. (See page 10.)

Using Recording Timer

With Recording Timer, you can make an MD of a radio broadcast automatically.

- You can set Recording Timer whether the unit is turned on or off.
- To correct a mis-entry any time during the setting process, press CANCEL.

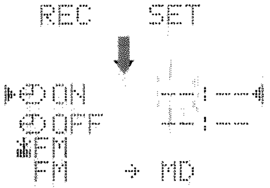
How Recording Timer actually works

The unit automatically turns on, tunes into the specified station, turns off the volume, and starts recording on the MD recorder when the timer-on time comes. Then, when the timer-off time comes, the unit automatically turns off (stands by).
The timer settings remain stored in memory until you reset them or disconnect the AC power cord.

1 Press CLOCK/TIMER repeatedly until "REC SET" appears in the main display.

- Each time you press the button, the timer mode changes as follows:

DAILY ON/OFF? → DAILY SET → REC ON/OFF? → REC SET → Clock → Previous indication → DAILY ON/OFF?

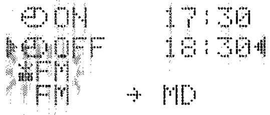


2 Rotate MULTI JOG to set the hour of the timer-on time, then press SET.

3 Rotate MULTI JOG to set the minute of the timer-on time, then press SET.

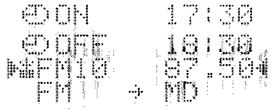
4 Rotate MULTI JOG to set the hour of the timer-off time, then press SET.

5 Rotate MULTI JOG to set the minute of the timer-off time, then press SET.



6 Rotate MULTI JOG to select either "FM" or "AM," then press SET.

7 Rotate MULTI JOG to select a preset channel, then press SET.



After completing the settings...
The REC indicator lights on the display window, and Recording Timer is ready for unattended recording.

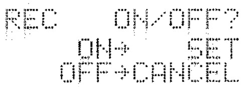
After a timer recording is complete...
Set the volume to an appropriate listening level.

notes **If you press a certain button while Recording Timer is operating**
Recording will stop.

To use the same Recording timer settings repeatedly

Once you have set Recording Timer, it remains stored in memory until you change it.
To activate Recording Timer with the previous settings recalled, follow the procedure below:

1 **Press CLOCK/TIMER repeatedly until "REC ON/OFF?" appears in the main display.**



2 **Press SET to use the previous settings for next timer recording.**
The REC indicator lights on the display window.

- To deactivate Recording Timer, press CANCEL in this step.

Using Daily Timer

With Daily Timer, you can wake up to your favorite music or radio program.

- You can set Daily Timer whether the unit is turned on or off.

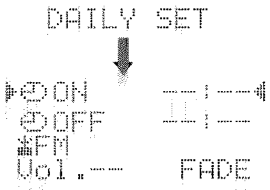
How Daily Timer actually works

The unit automatically turns on, and starts playing the specified source when the timer-on time comes. Then, when the timer-off time comes, the unit automatically turns off (stands by).
The timer settings remain stored in memory until you reset them or disconnect the AC power cord.

1 Press CLOCK/TIMER repeatedly until "DAILY SET" appears in the main display.

- Each time you press the button, the timer mode changes as follows:

DAILY ON/OFF? → DAILY SET → REC ON/OFF? → REC SET → Clock → Previous indication → DAILY ON/OFF?

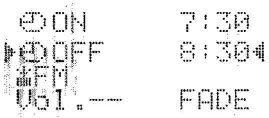


2 Rotate MULTI JOG to set the hour of the timer-on time, then press SET.

3 Rotate MULTI JOG to set the minute of the timer-on time, then press SET.

4 Rotate MULTI JOG to set the hour of the timer-off time, then press SET.

5 Rotate MULTI JOG to set the minute of the timer-off time, then press SET.



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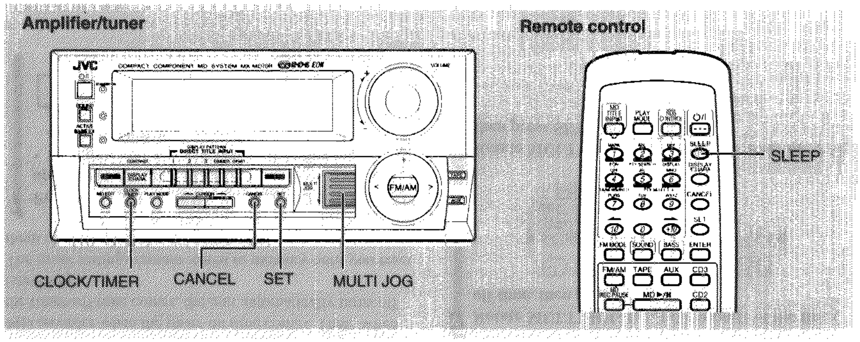


Continued

6 **Rotate MULTI JOG to set the source, then press SET.**

FM ←→ AM ←→ CD ←→ MD ←→ TAPE ←→ AUX ←→ FM

FM: Tunes into a preset FM station. Go to step 7.
AM: Tunes into a preset AM station. Go to step 7.
CD: Plays a CD. Prepare a CD, then go to step 7.
MD: Plays an MD. Prepare an MD.
TAPE*: Selects "TAPE" as the source. Make the cassette deck ready for playback.
AUX*: Selects "AUX" as the source. Make the external equipment ready for playback.

* To use these equipment with the Daily Timer, they also have the timer function.

7 **If you have selected FM or AM as the source in the above step, select a preset channel.**

1) Rotate MULTI JOG to select a preset channel.
2) Press SET.

If you have selected CD as the source in the above step, select a disc.

1) Rotate MULTI JOG to select a disc.
2) Press SET.

ON 7:30
OFF 8:30
CD2
Vol --   FADE

Ex.: When selecting "CD 2"

8 **Rotate MULTI JOG to set the volume level, then press SET.**

- You can adjust the volume within the range of "00" to "50." If you select "– –," the volume is set to the previous level when the unit is turned off.

ON 7:30
OFF 8:30
CD2
Vol 1.08   FADE

9 **Rotate MULTI JOG to select either "FADE" or "NO FADE," then press SET.**

FADE: Volume fades in (gradually becomes louder and is set to the specified level) when the timer-on time comes.
NO FADE: No fade-in effect. Volume is set to the specified level when the timer-on time comes.

After completing the settings...
The DAILY indicator lights on the display window.
Turns off the unit (on standby) if you have set Daily Timer with the unit turned on.

notes **If you press a certain button while Daily Timer is operating**
The unit will not turn off automatically.

To use the same Recording timer settings repeatedly

Once you have set Daily Timer, it remains stored in memory until you change it.
To activate Daily Timer with the previous settings recalled, follow the procedure below:

1 **Press CLOCK/TIMER repeatedly until "DAILY ON/OFF?" appears in the main display.**

DAILY ON/OFF?
ON→ SET
OFF→CANCEL

2 **Press SET to activate Daily timer.**

- To deactivate Daily Timer, press CANCEL in this step.

Using Sleep Timer

With Sleep Timer, you can fall asleep to your favorite music.
You can set Sleep Timer when the unit is turned on.

How Sleep Timer actually works

The unit automatically turns off after the specified time length passes.

1 **Press SLEEP on the remote control.**

- Each time you press the button, the time length changes as follows:

→ 10 → 20 → 30 → 60 → 90 → 120 → OFF (Canceled) → 10

2 **Wait for about 3 seconds after specifying the time length.**
The display window dims.

To check the remaining time until the shut-off time, press SLEEP once. The remaining time until the shut-off time appears for about 5 seconds.

To change the shut-off time, press SLEEP repeatedly until the desired time length appears.

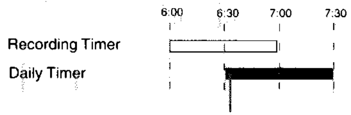
To cancel the setting, press SLEEP repeatedly until "SLEEP OFF" appears.

- Turning off the unit also cancels Sleep Timer

Timer Priority

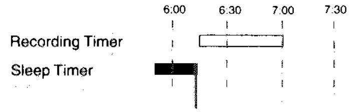
Since each timer can be set separately, you may wonder what happens if the setting for these timers overlaps.
Here are the priorities for each timer.

- **Recording Timer has priority over Daily Timer and Sleep Timer.**
  If Daily Timer is set to come on while Recording Timer is operating, Daily Timer will not come on at all.



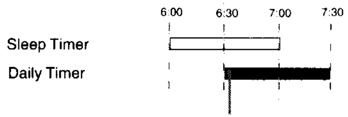
does not work.

If Recording Timer is set to come on while Sleep Timer is operating, Sleep Timer will be canceled several seconds before Recording Timer comes on.



canceled.

- **Sleep Timer has priority over Daily Timer.**
  If Daily Timer is set to come on while Sleep Timer is operating, Daily Timer will not come on at all.



does not work.

Therefore, the equation is like this —

Recording Timer > Sleep Timer > Daily Timer

Maintenance

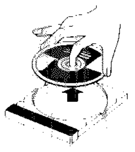
To get the best performance of the unit, keep your discs and mechanism clean.

General Notes

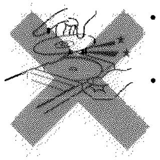
In general, you will have the best performance by keeping your CDs, MDs and the mechanism clean.

- Store CDs and MDs in their cases, and keep them in cabinets or on shelves.
- Keep the CD disc compartment, and the MD loading slot cover closed when not in use.

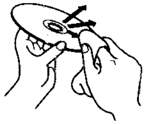
Handling CDs



- Remove the CD from its case by holding it at the edge while pressing the center hole lightly.
- Do not touch the shiny surface of the disc, or bend the CD.
- Put the CD back in its case after use to prevent warping.



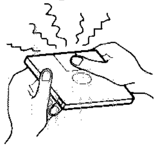
- Be careful not to scratch the surface of the CD when placing it back in its case.
- Avoid exposure to direct sunlight, temperature extremes, and moisture.



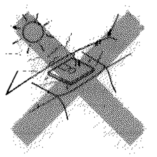
To clean the CD
Wipe the CD with a soft cloth in a straight line from center to edge.

DO NOT use any solvent — such as conventional record cleaner, spray, thinner, or benzine — to clean the CD.

Handling MDs



- Do not open the shutter.
  - The shutter is locked so that it will not open. Trying to force it open will break the MD. If the shutter opens accidentally, close it again quickly without touching the MD inside.



- Do not place MDs in the following places:
  - High temperature areas such as in direct sunlight or inside a car.
  - High humidity areas, e.g. in a bathroom.
  - On a beach or sandy area.
- Clean MDs regularly.
  - If dust or dirt gets on cartridge, wipe it off with a soft dry cloth.

Additional Information

MD Disc Types

There are two types of MDs: Premastered (prerecorded) and Recordable (blank).

Premastered MDs
Premastered MDs, which have been recorded at music studio, can be played back like regular CDs. On an MD of this type, data is recorded as the presence or absence of tiny pits. A laser beam focuses on the pits on the surface of the MD and reflects the detection back to the lens in the MD recorder. The MD recorder then decodes the signals and plays them back as music. This type of MD is called an "optical disc."

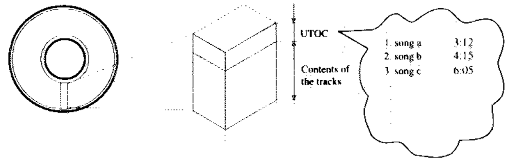
Recordable MDs
Recordable MDs, which use magneto-optical technology, can be recorded and played back repeatedly. The laser inside the MD recorder applies heat to the MD, demagnetizing the magnetic layer of the MD for recording and playback. This type of MD is called an "magnetic-optical disc."

ATRAC (Adaptive TRansform Acoustic Coding)

The MD provides 74 minutes recording and playback time, the same as an audio CD, but in a diameter of only 64 mm. This ability to store such a large amount of data is the result of ATRAC, an audio compression technique developed for MD. This technology cuts out faint sounds that would not be heard by the human beings. This technology, based on human sensitivity to sounds, reduces recorded data volume up to about one-fifth of that of the original data.

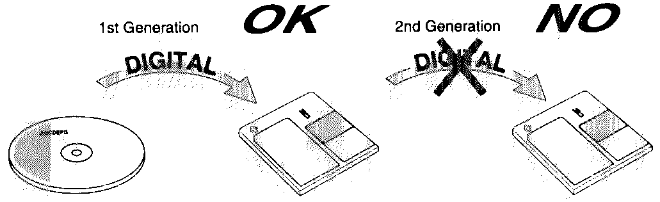
UTOC (User Table Of Contents)

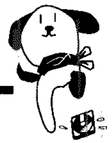
Found only on recordable MDs, this area contains sub-data (track number, recording data, etc.) which can be rewritten by the user.
UTOC enables us to search tracks quickly and edit tracks on the MD.



Serial Copy Management System (SCMS)

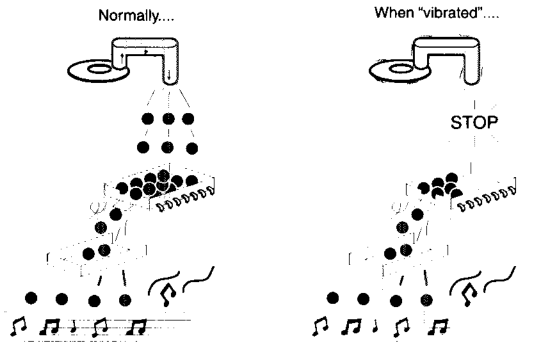
The MD recorder integrated to this unit uses the Serial Copy Management System which allows only first-generation digital copies to be made of premastered software (like CDs or prerecorded MDs).





Sound Skip Guard Memory

The biggest weakness of discs is their susceptibility to vibration. The "Sound Skip Guard Memory" has been developed to cope with this weakness.
With this function, a few seconds of signals read by the optical read head from the disc are first stored in memory before being reproduced as audio signals. Thus, even when vibration or shock interrupts signals being read, these stored signals can continue to reproduce sounds for the few seconds. Thus, the user will enjoy uninterrupted music.



MD limitations
The MD records data in an original format that differs from that of conventional cassette tapes or DATs. Since there are some limitations with this recording format, the following types of symptoms may occur. These symptoms are not malfunctions.

Symptoms	Cause
"DISC FULL" appears, even though there is still enough remaining time on an MD.	There is a maximum number of tracks which can be recorded, regardless of recording time. More than 254 tracks cannot be recorded on an MD.
"DISC FULL" appears even though the number of tracks and recording time do not reach the limit.	• Repeating erasure and recording on the same MD creates many blank portions sparsely on the MD. When recording on such an MD, a track is recorded on these blank portions sparsely. If a track is divided and recorded into so many portions, "DISC FULL" appears. • If a divided portion of less than 8 seconds is made while a track is recorded on the MD, that track cannot be joined to another track using the JOIN function. Furthermore, if that track is erased, the remaining time of the MD may not increase exactly by the erased amount. • If a track has been divided into many portions while being recorded on the MD, sounds will drop out while fast forwarding or reversing such an MD.
The JOIN function sometimes does not work.	
The remaining time on the MD does not increase even when tracks are erased.	
The sound drops out during fast forward or fast rewind.	
The amount of recorded time on the MD added to the amount of remaining time is shorter than the MD's total possible recording time.	You cannot record on a blank portion of less than 2 seconds in the MD. For this reason, the actual recording time of discs may become shorter.

Troubleshooting

If you are having a problem with your unit, check this list for a possible solution before calling for service.
If you cannot solve the problem from the hints given here, or the unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	Action
No sound is heard.	Connections are incorrect, or loose.	Check all connections and make corrections. (See pages 6 – 9.)
Unable to record on an MD.	• You are using a prerecorded MD.	• Change it with a recordable MD.
	• The MD is write-protected.	• Unprotect the MD. (See page 51.)
Poor radio reception.	• The antenna is not connected correctly.	• Reconnect the antenna securely.
	• The AM loop antenna is too close to the unit.	• Change the position and direction of the AM loop antenna.
	• The FM antenna is not properly extended and positioned.	• Extend FM antenna to the best reception position.
The CD skips.	The CD is dirty or scratched.	Clean or replace the CD. (See page 47.)
Unable to operate the remote control.	• The path between the remote control and the remote sensor on the unit is blocked.	• Remove the obstruction.
	• The batteries have lost their charge.	• Replace the batteries.
The number buttons and CD/MD/tuner control buttons on the remote control do not function correctly.	The operation modes for the unit and for the remote control do not match.	Match them correctly.
Loaded CDs and MD cannot be ejected.	• The main AC power cord is not plugged in.	• Plug in the AC power plug.
	• The Disc Lock function is turned on.	• Turn off the Disc Lock function. (See page 22.)
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
Operations are disabled.	The built-in microprocessor has malfunctioned due to external electrical interference.	Unplug the unit then plug it back in.

MD Messages

Message	Signification	Solution
BLANK DISC	The disc is blank.	Change the MD with another if you want to enjoy playback.
CANNOT JOIN	You are trying to join tracks which cannot be joined.	This is not a malfunction. (See MD limitations on page 49.)
DISC ERROR	There is a problem with this MD.	Change the MD.
DISC FULL	There is no more space on the MD or there are over 254 tracks.	Use another recordable MD or erase some tracks.
EMERGENCY STOP	A malfunction has occurred during the recording.	Eject the MD and re-insert it.
MD NO DISC	There is no MD.	Put an MD.
NON-AUDIO CANNOT COPY	You are trying to copy a non-audio disc like a CD-ROM or a Video CD.	Stop recording.
PLAYBACK MD	You are trying to edit or record on a playback-only MD.	Use a recordable MD.
DISC PROTECTED	The MD is write-protected.	Unprotect the MD or use another. (See page 27.)
SCMS CANNOT COPY	Digital copy of the 2nd generation is prohibited.	Use an analog recording method.
DIGITAL IN UNLOCK	There is no digital device connected to the AUX DIGITAL IN OPTICAL terminal.	Connect a digital device using digital optical cord.

Specifications

Amplifier

Output Power (IEC 268-3/DIN)
37 watts per channel, min. RMS, both channels driven into 6 ohms at 1 kHz with no more than 0.9% total harmonic distortion.

Audio input sensitivity/Impedance (at 1 kHz)
Analog input:
TAPE 200 mV/47 kohms
AUX 500 mV/47 kohms
Digital input:
AUX: Optical
Signal wave length: 660 nm
Input level: –23 dBm to –15 dBm
(With the built-in sampling rate converter, corresponding to 32 kHz/44.1 kHz/48 kHz)
Audio output level/Impedance (at 1 kHz)
TAPE 170 mV/3.9 kohms
Speakers/Impedance: 6 ohms

Tuner

FM tuning range: 87.50 – 108.00 MHz
AM tuning range: MW: 522 – 1,629 kHz
LW: 144 – 288 kHz

CD player

CD Capacity: 3 CDs
Dynamic range: 92 dB
Signal-to-noise ratio: 100 dB
Wow and flutter: Immeasurable

MD recorder

Audio playing system: MiniDisc digital audio system
Recording system: Magneto-optical overwrite system
Reading system: Non-contact, semiconductor laser pickup (λ=780 nm)
Error correction system: CIRC (Cross Interleave Reed-Solomon Code)
Sampling frequency: 44.1 kHz
(With sampling rate converter for recording — 32 kHz/44.1 kHz/48 kHz)
Audio compression system:
ATRAC (Adaptive TRansform Acoustic Coding)

General

Power requirement: AC 230 V∼, 50 Hz
Power consumption: 105 watts (at operation)
11 watts (on standby: with Demo off)
15 watts (on standby: with Demo on)
Dimensions (approx.): 245 x 280 x 346 mm (W/H/D)
(9$^{11}/_{16}$ x 11$^{1}/_{16}$ x 13$^{5}/_{8}$ in.)
Mass (approx.): 7.8 kg (17.2 lbs)

Supplied accessories

See page 6.

Design and specifications are subject to change without notice.

— MEMO —

Disassembly Methode

<Main Body>

■ Removing the Metal Cover (see Fig.1~3)

1. Remove the six screw As attaching the metal cover in the rear body.
2. Remove the two screw Bs on each side of the body.
3. Lift the back of the metal cover to remove from the body.

CAUTION: At this time, DO NOT break the front panel tab fitted to the metal cover.

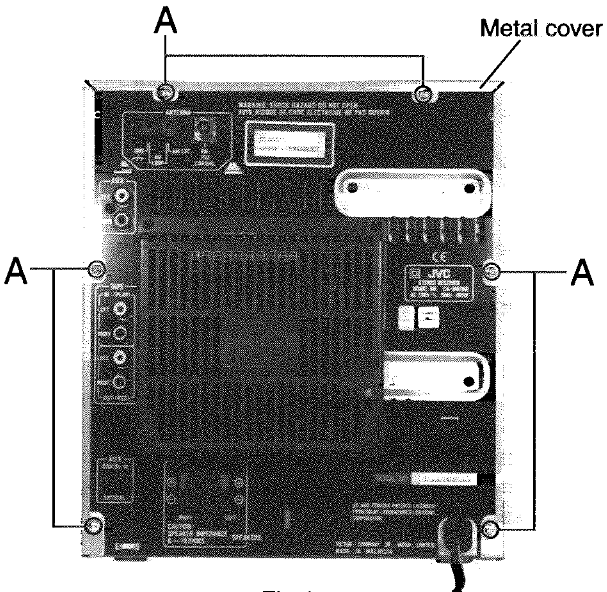

A
Metal cover
A
A

Fig.1

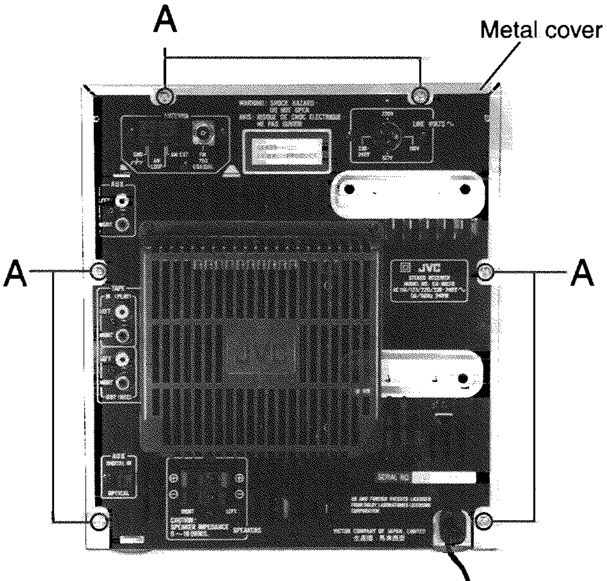

A
Metal cover
A
A

Fig.1 (U version)

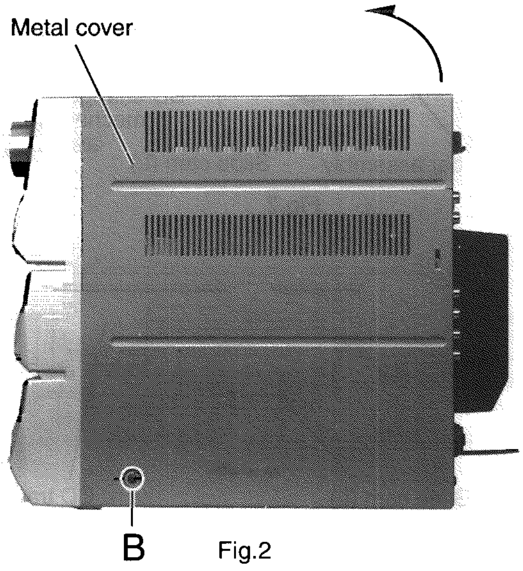

Metal cover
B

Fig.2

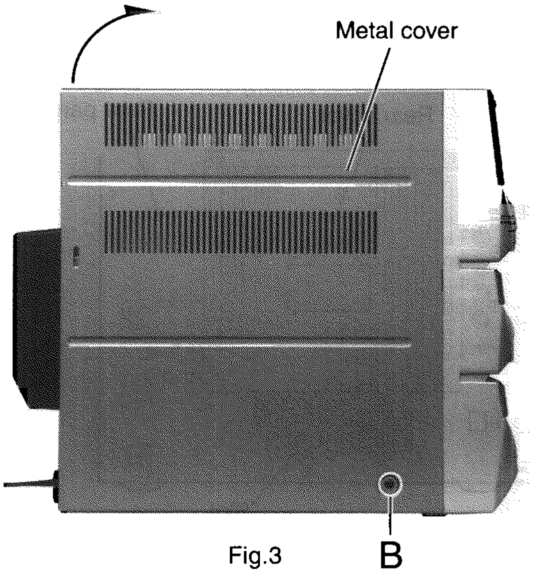

Metal cover
B

Fig.3

■ Removing the CD Fitting (see Fig.4 to 6)

CAUTION: Perform the following procedure before removing the front panel assembly.

1. Turning on power, press any CD ejecting button from 1 to 3 to eject the tray.
2. Remove the CD fitting and the spring.
3. Close the tray.

NOTE: When reassembling, 1)after ejecting the tray, disconnect the power cord from the wall outlet, and 2) push and return the tray to the midst position, 3)attach correctly the spring, then the CD fitting 4)connect the power cord to the wall outlet, and close the tray.

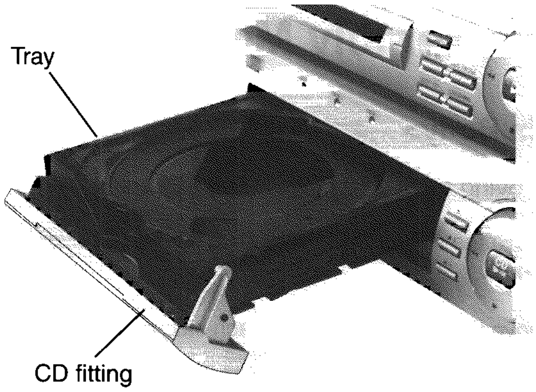

Tray
CD fitting

Fig.4

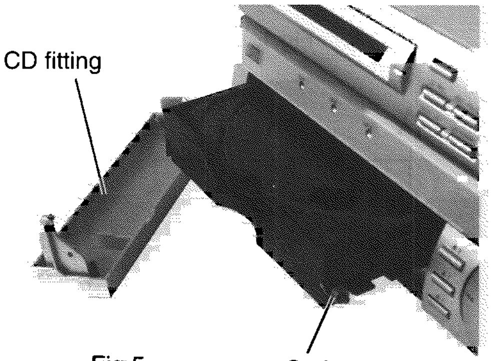

CD fitting
Spring

Fig.5

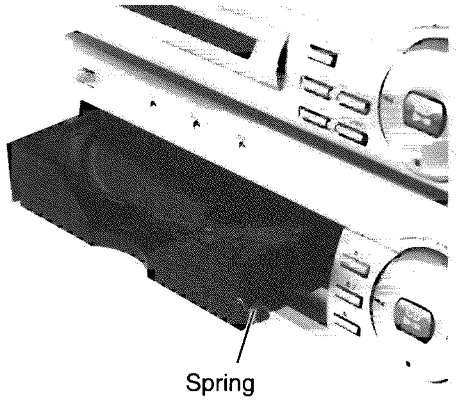


Fig.6

■ Ejecting the Tray without Turning on Power (in the play mode) (see Fig.7 to 9)

1. Remove the metal cover.
2. Push the box slider assembly of the CD changer mechanism assembly through the slot of the rear panel toward the front side until it stops.
3. Slide the slide cam (L) in the direction of the arrow, on the left side of the CD changer mechanism assembly (see Fig.8 and 9).
4. Pull out the CD tray from the front panel.

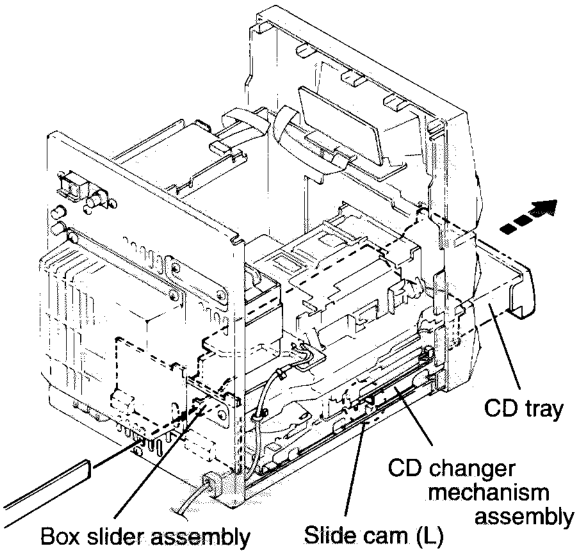

CD tray
CD changer mechanism assembly
Box slider assembly
Slide cam (L)

Fig.7

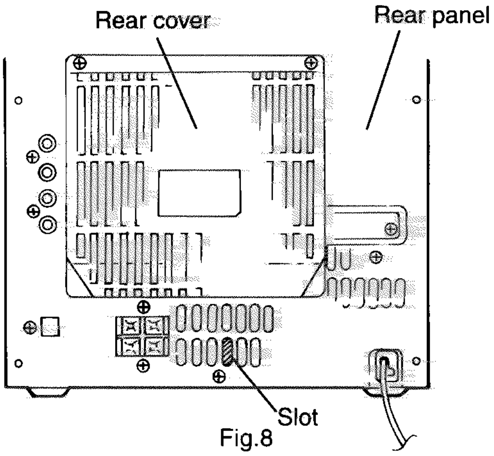

Rear cover
Rear panel
Slot

Fig.8

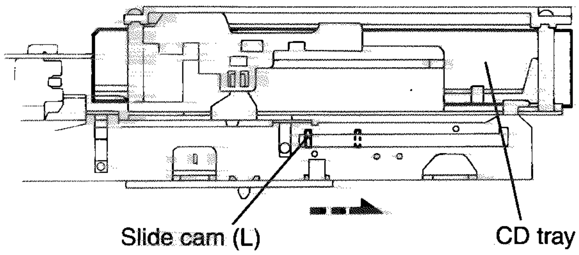

Slide cam (L)
CD tray

Fig.9

<Front Panel Assembly>

■ Removing the Front Panel Assembly (see Fig.10 to 13)

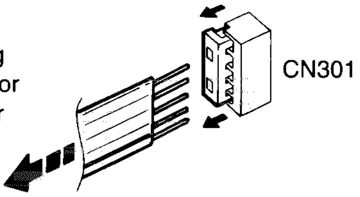
CAUTION: Prior to performing the following procedure, remove the metal cover and the CD fitting.

1. Remove the two screw Cs attaching the front panel assembly to each side of the MD mechanism assembly base.
2. Remove the three screw Ds attaching the front panel assembly on the reverse side of the body.
3. As for the harnesses connecting the front panel to the main board, disconnect them from the main board.

   Disconnect the card wires from connector CN671 and CN681.

   Remove the screw E on the power board, and disconnect the black rug wire.

   As for the harness connecting the front panel to the connector CN301 on the power amplifier board, disconnect it from connector CN301.

4. Release joint (a) on the bottom of the body and joint (b) and (c) on the bottom of each side by using a screwdriver. Remove the front panel assembly toward the front.

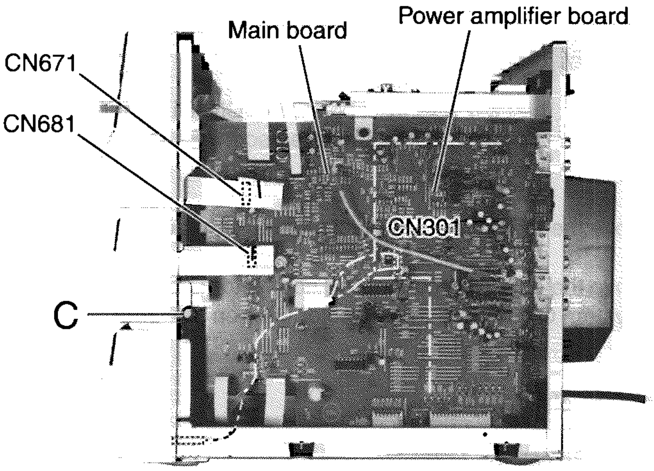

Main board
Power amplifier board
CN671
CN681
CN301
C

Fig.10

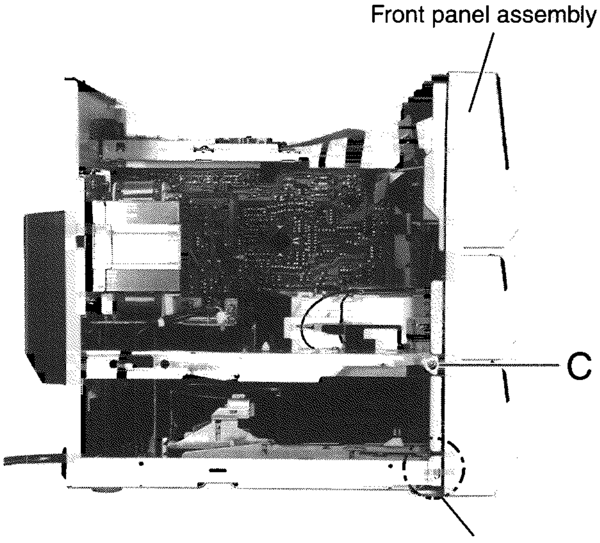

Front panel assembly
C
Joint (c)

Fig.11

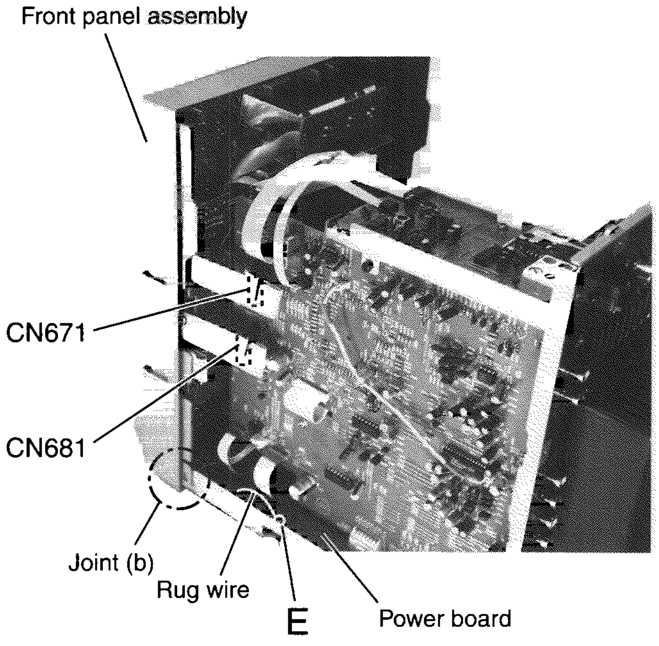

Front panel assembly
CN671
CN681
Joint (b)
Rug wire
E
Power board

Fig.12

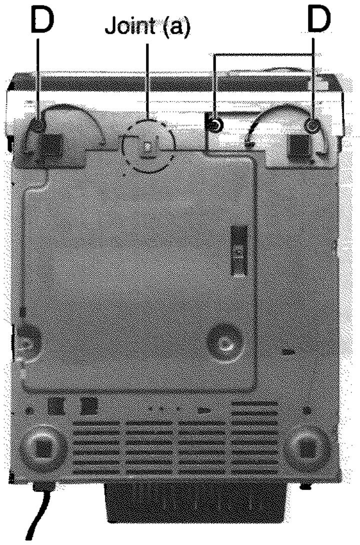


Fig.13

■ Removing Each Board on the Front Panel Assembly (see Fig.14 to 16)

1. Disconnect the card wire from connector CN781 on the system CPU board. Remove the three screw Fs attaching the system CPU board.
2. Remove the four screw Gs attaching the lamp board.
3. Remove the card wire connecting connector CN762 on the system CPU board to connector CN1 on the lamp board.

   Then, unsolder the harnesses.
4. Pull out the volume control toward the front.
5. Remove the eighteen screw Hs attaching the CD control switch board.
6. Remove the five screw Is attaching the MD control switch board.
7. Unsolder each harness connecting the CD control switch to MD control switch.
8. Remove the two screw Js attaching the headphone jack board.

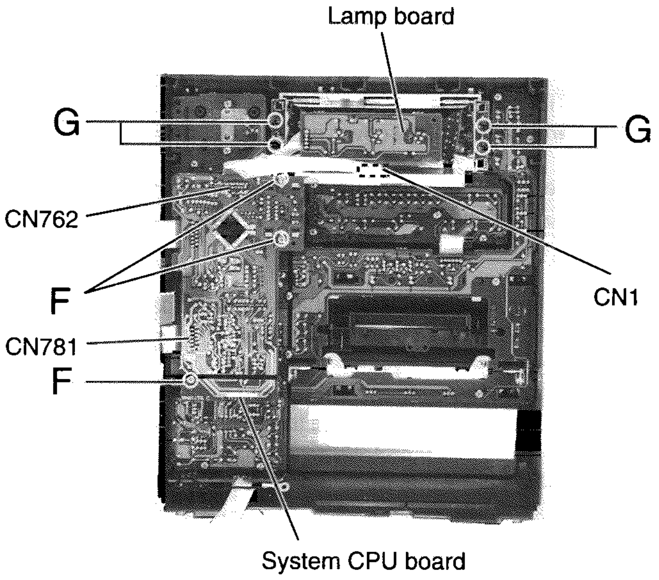

Lamp board
G
G
CN762
F
CN1
CN781
F
System CPU board

Fig.14

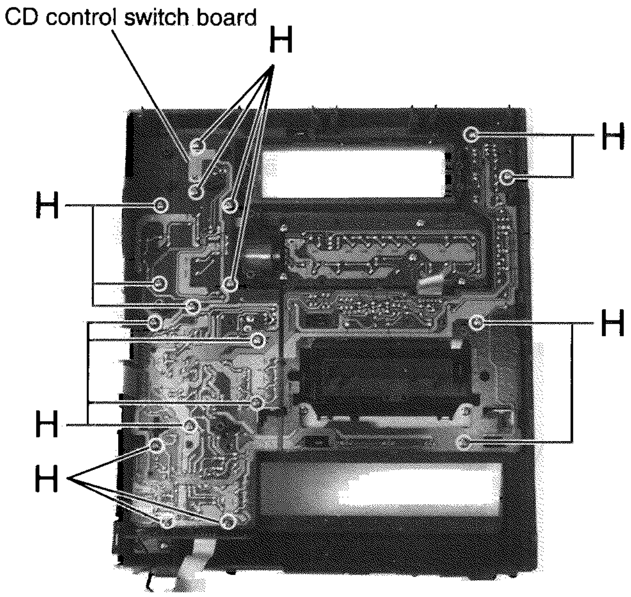

CD control switch board
H
H
H
H
H
H

Fig.15

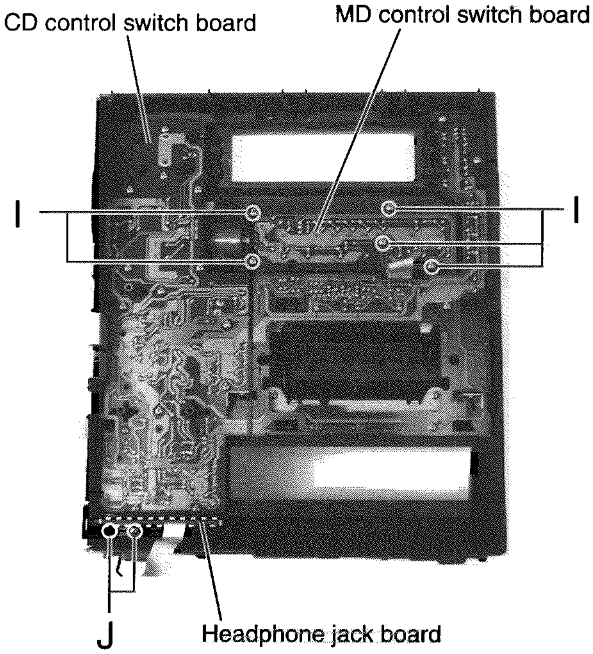

CD control switch board
MD control switch board
I
I
J
Headphone jack board

Fig.16

<Rear Panel>

CAUTION: Prior to performing the following procedures, remove the metal cover.

NOTE: The following components can be removed before removing the front panel assembly.

■ Removing the Rear Cover (see Fig.17)

1. Remove the two screw Ks attaching the rear cover in the rear body.

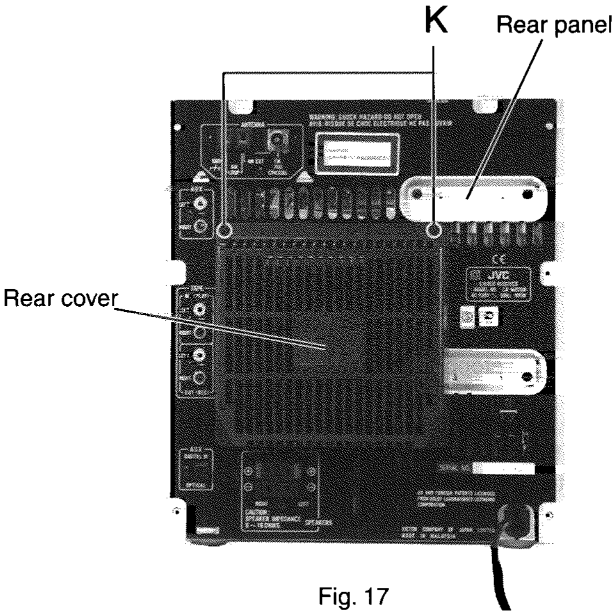


Fig. 17

■ Removing the Power Transformer Assembly (see Fig.18 to 21)

1. Remove the four screw Ls attaching the power transformer assembly in the rear body.
2. Remove the two screw Ms attaching the voltage selector (Only U version).
3. Disconnect the harnesses from connector CN902 and CN991 on the power transformer board.
4. Pull the power transformer assembly upward to release the joints and detach the rear panel.
5. Cut off the cord clamp fixing the power cord to the MD base.
6. Push up the cord stopper to remove.
7. Remove the four screw Ns attaching the power transformer from the power transformer assembly. Then, remove the transformer bracket.

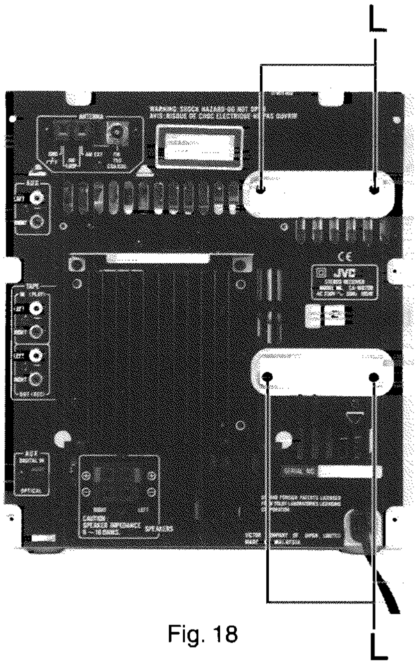


Fig. 18

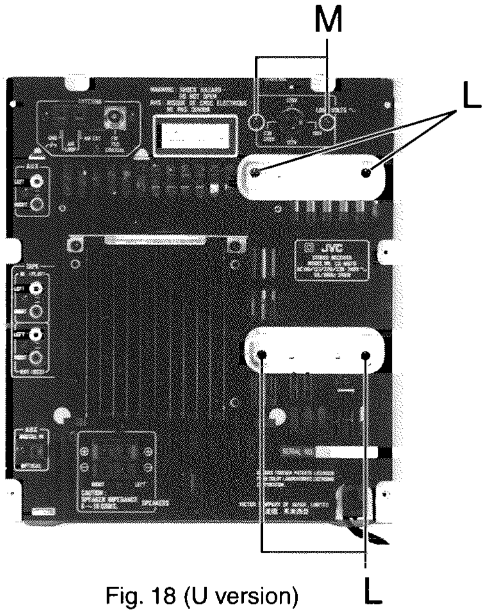


Fig. 18 (U version)

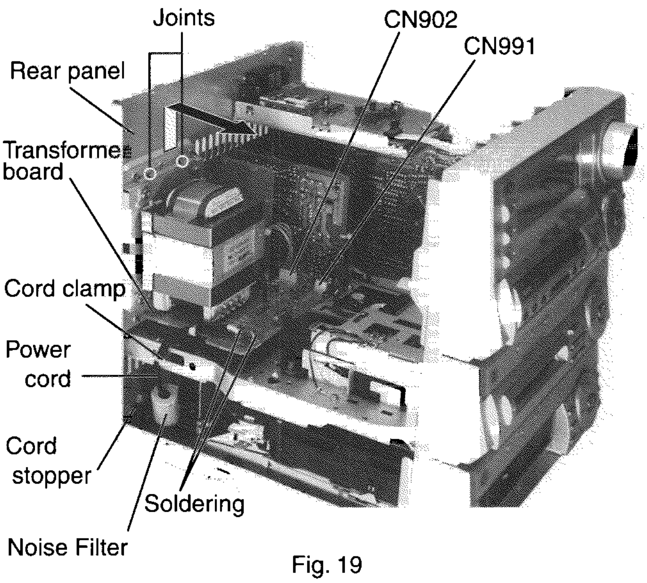

Joints
CN902
CN991
Rear panel
Transformer board
Cord clamp
Power cord
Cord stopper
Soldering
Noise Filter

Fig. 19

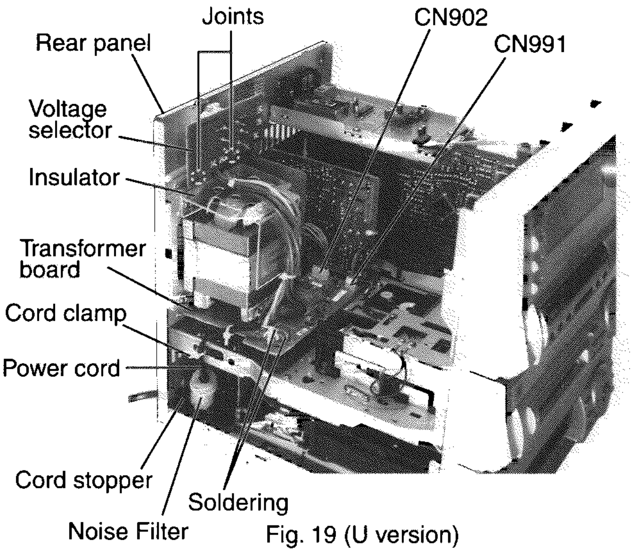

Joints
CN902
CN991
Rear panel
Voltage selector
Insulator
Transformer board
Cord clamp
Power cord
Cord stopper
Soldering
Noise Filter

Fig. 19 (U version)

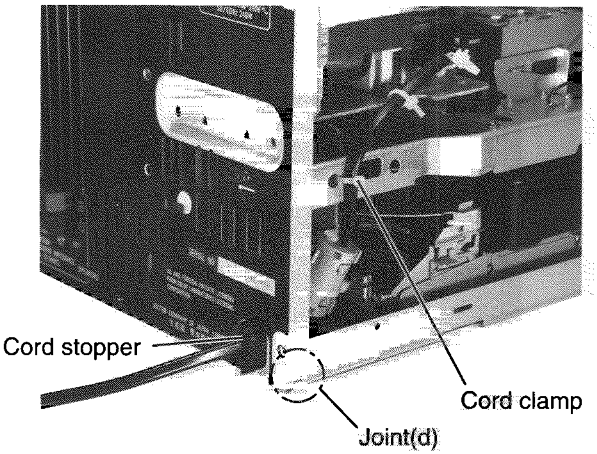

Cord stopper
Cord clamp
Joint(d)

Fig. 20

■Removing the Rear Panel (see Fig.22, 23)

1. Remove the power transformer assembly.
2. In the rear body, remove the two screw Os attaching the heat sink to the rear panel.
3. Remove the three screw Ps attaching the tuner board assembly to the rear panel.
4. Remove the four screw Qs attaching the main board to the rear panel.
5. Remove the three screw Rs attaching the power amplifier board to the rear panel.
6. Remove the three screw Ss attaching the rear panel to the body.
7. Release joint (d) and (e) at the bottom of the rear panel by using a screwdriver, then remove the rear panel toward the rear. (See Fig.20, 23)

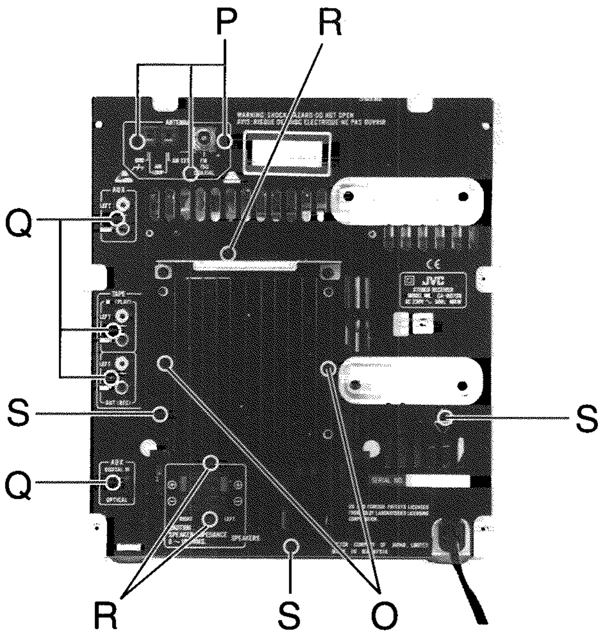


Fig. 22

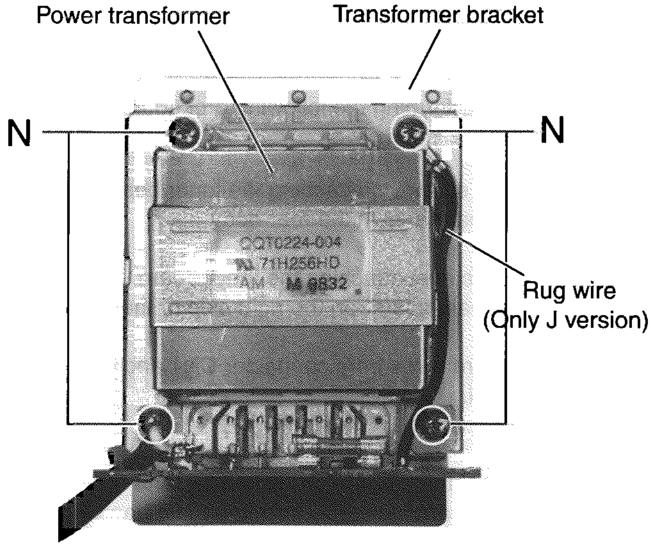

Power transformer
Transformer bracket
N
N
Rug wire
(Only J version)

Fig.21

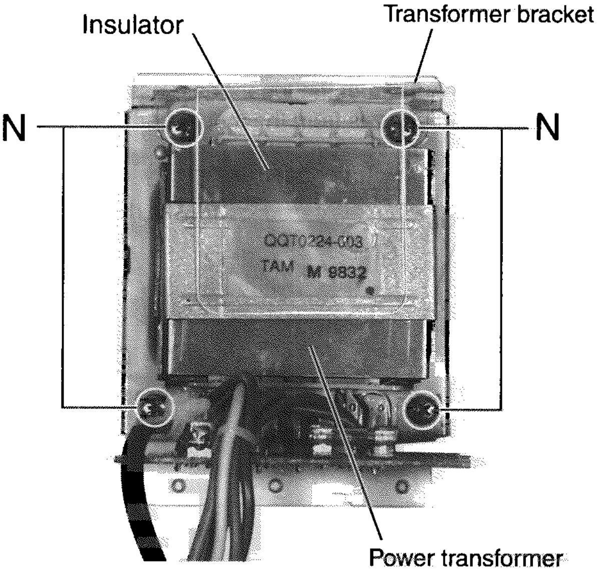

Insulator
Transformer bracket
N
N
Power transformer

Fig.21 (U version)

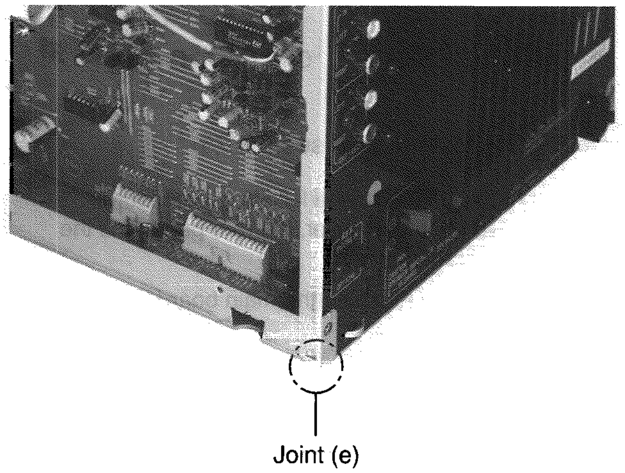


Fig.23

■ Removing the Tuner Board Assembly (see Fig.24 to 26)

CAUTION: Prior to performing the following procedure, remove the metal cover.

1. Remove the three screw Ps attaching the tuner board assembly to the rear panel in the rear body.
2. Remove the plastic rivet attaching the tuner board assembly to the main board, on the right side of the body.
3. Disconnect the card wires from connector CN1 and CN2 on the tuner board.
   (CN2 is found only on the R version).
4. Lift the front side of the tuner board assembly, and remove the tuner board assembly from the main board, then from the rear panel.

   To reassemble, ensure that the main board is correctly attached to the notch of the tuner chassis on the tuner board assembly.
5. Remove the two screw Ts from the tuner board assembly, then remove the tuner chassis from the tuner board.

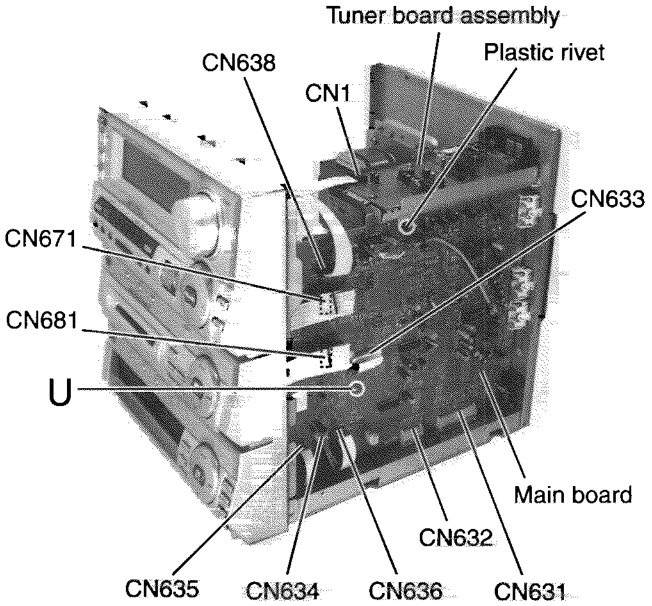

Tuner board assembly
CN638
Plastic rivet
CN1
CN633
CN671
CN681
U
Main board
CN632
CN635
CN634
CN636
CN631

Fig. 25

■ Removing the Main Board (see Fig.25)

CAUTION: Prior to performing the following procedure, remove the metal cover, the rear panel and the tuner board assembly.

1. Remove the screw U attaching the main board on the right side of the body.
2. Disconnect the card wires from connector CN671,CN681,CN633,CN635 and CN636 on the main board, and disconnect the 3 pin harness from connector CN634.
3. Pull out connector CN631 and CN632 on the main board.

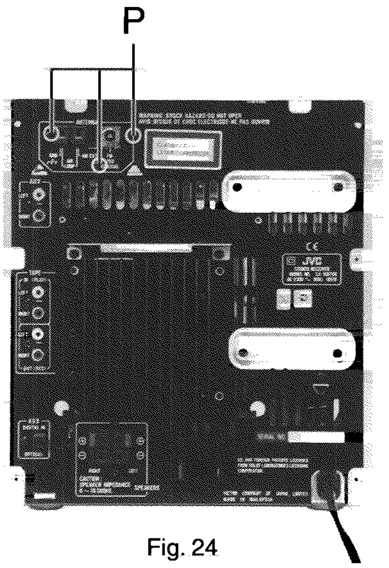


Fig. 24

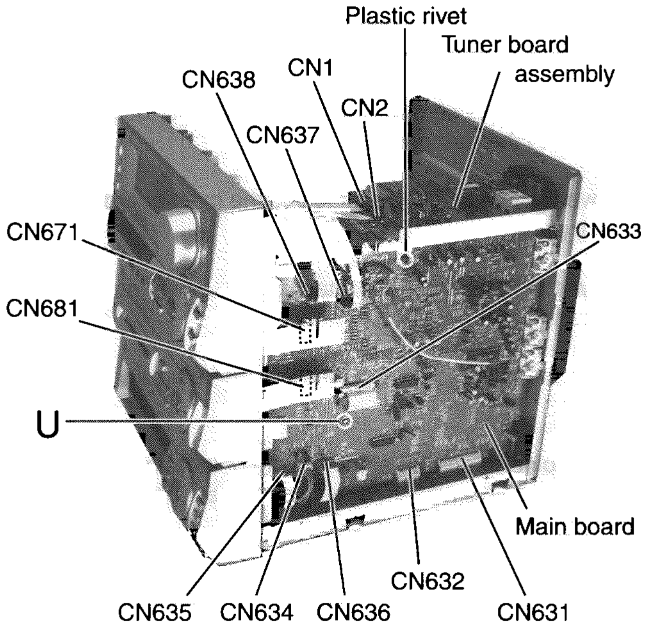

Plastic rivet
Tuner board assembly
CN638
CN1
CN2
CN637
CN671
CN633
CN681
U
Main board
CN632
CN635
CN634
CN636
CN631

Fig. 25 (R version)

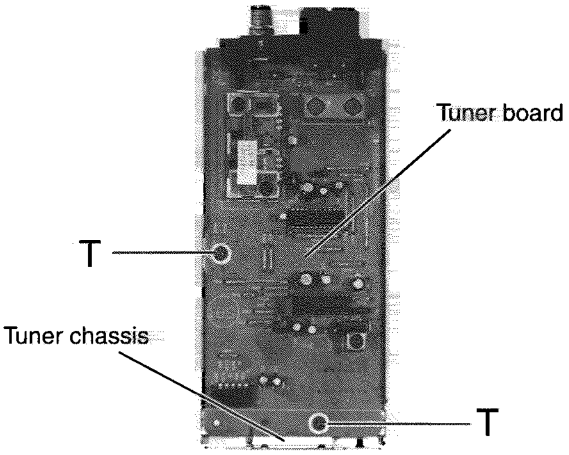

Tuner board
T
Tuner chassis
T

Fig. 26

■ Removing the Rated Voltage Board and the Power Amplifier Board (see Fig.27 to 31)

CAUTION: Prior to performing the following procedure, remove the metal cover and the rear panel.

1. Cut off the cord clamp which fixes the harnesses outgoing from the relay board.
2. As for the harness connecting the front panel to connector CN301 on the power amplifier board, disconnect it from connector CN301.
3. Pull out connector CN944 on the rated voltage board and connector CN912 on the power amplifier board upward.
4. Remove the two screw Vs attaching the heat sink 2 (R /U version).
5. Remove the three screw Ws attaching the heat sink 1, then remove the leaf spring and bracket.

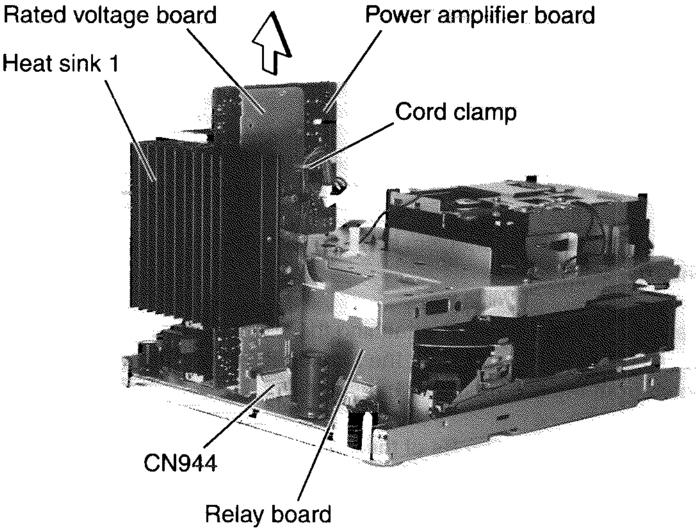

Rated voltage board
Power amplifier board
Heat sink 1
Cord clamp
CN944
Relay board

Fig. 27

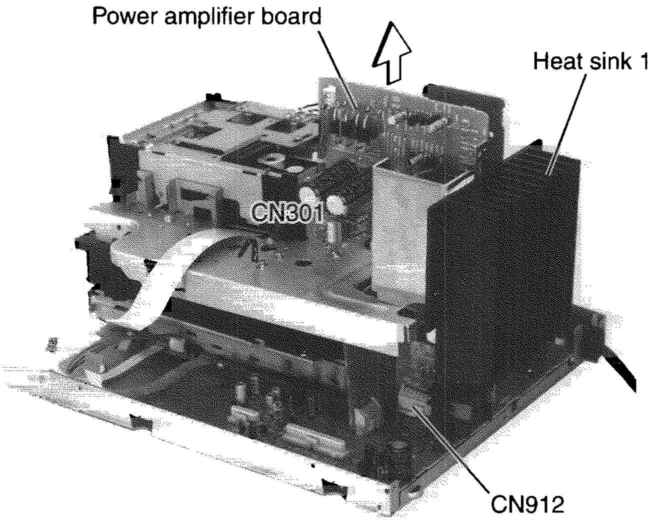

Power amplifier board
Heat sink 1
CN301
CN912

Fig. 28

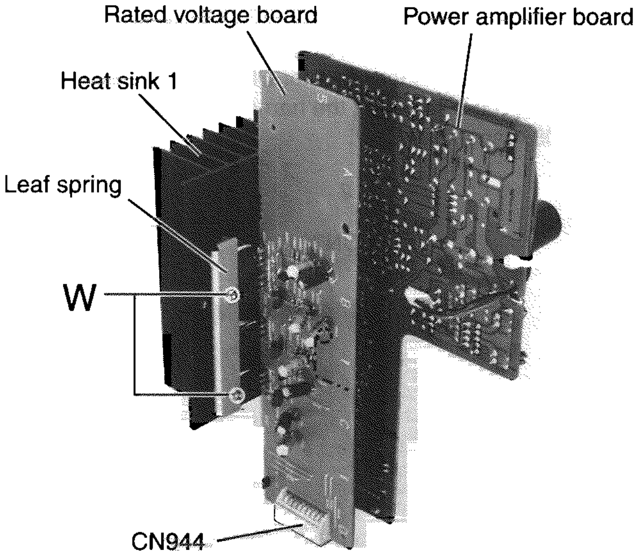

Rated voltage board
Power amplifier board
Heat sink 1
Leaf spring
W
CN944

Fig. 30

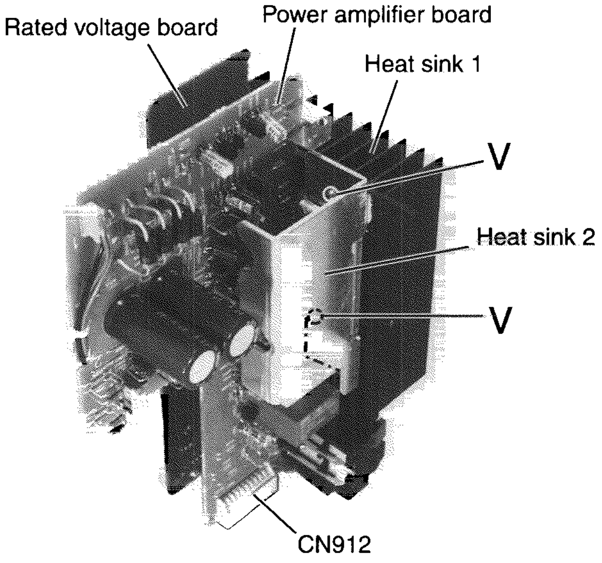

Rated voltage board
Power amplifier board
Heat sink 1
V
Heat sink 2
V
CN912

Fig. 29

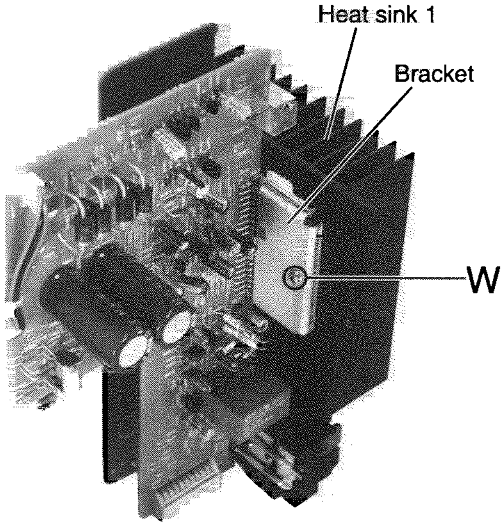

Heat sink 1
Bracket
W

Fig. 31

<MD mechanism>

CAUTION: Prior to performing the following procedure, remove the metal cover, front panel assembly, rear panel, power amplifier board/rated voltage board and main board.

■ Removing the MD mechanism assembly (see Fig.1~5)

1. Remove the MD mechanism base upward from the base chassis.
2. Remove the one screw A attaching the MD mechanism assembly to the bracket. Sift the bracket to disengage its notch from the MD mechanism assembly.
3. Remove the two screw Bs of the rug wire(black) outgoing from the MD mechanism assembly.
4. To release the MD mechanism assembly from the four insulator, first move it toward the front, then lift it.
5. Remove the two screw Cs attaching the MD servo board on the reverse side of the MD mechanism. Disconnect the flexible harness from connector CN321 on the MD servo board, and disconnect the harnesses from CN407 and CN408 respectively.

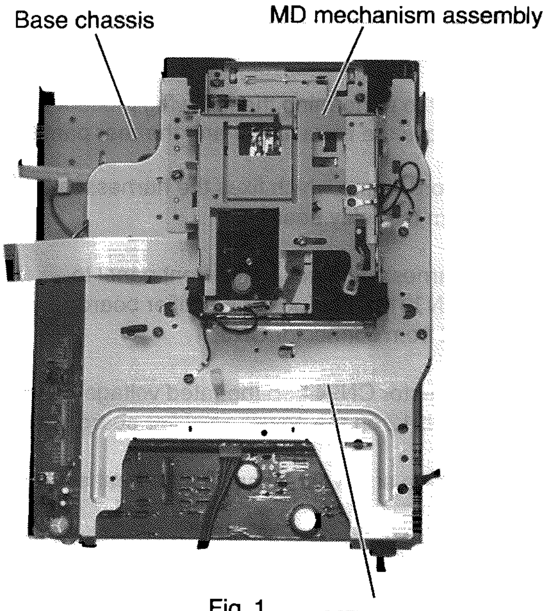

Base chassis
MD mechanism assembly
MD mechanism base

Fig. 1

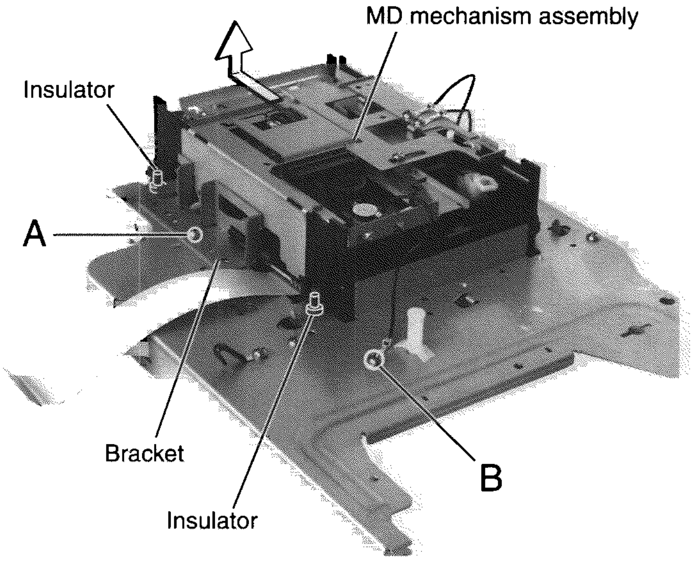

MD mechanism assembly
Insulator
A
Bracket
Insulator
B

Fig. 2

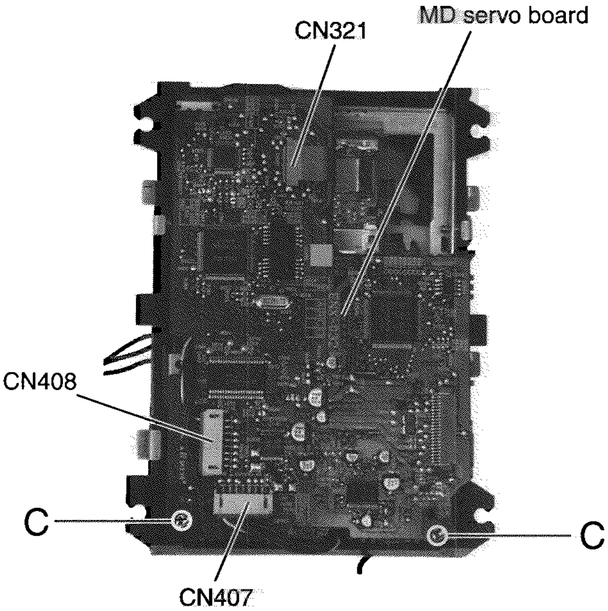

CN321
MD servo board
CN408
C
C
CN407

Fig. 4

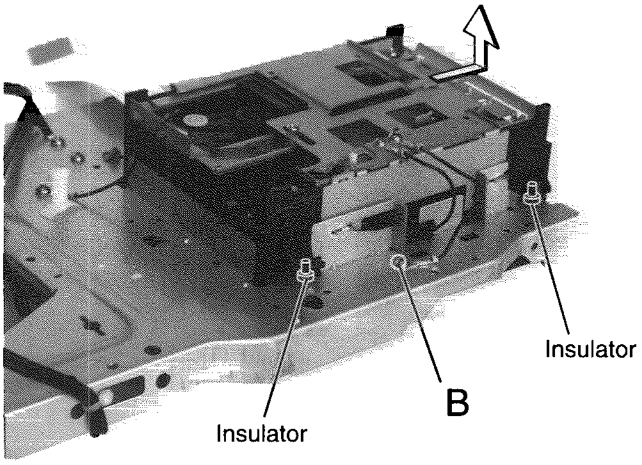

Insulator
B
Insulator

Fig. 3

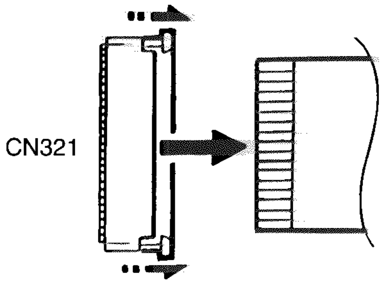


Fig. 5

■ Removing the Relay Board and the Power Board (see Fig.6)

CAUTION: Prior to performing the following procedure, remove the MD mechanism base.

1. Disconnect connector CN921 and CN923 on the relay board, and pull the relay board upward.
2. Remove the two screw Ds attaching the power board to the base chassis.

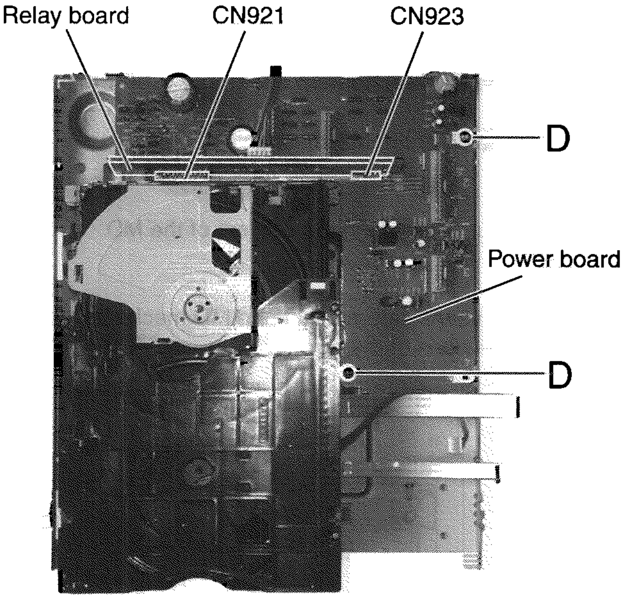

Relay board
CN921
CN923
D
Power board
D

Fig. 6

■ Removing the CD Changer Mechanism Ass'y (see Fig.38 and 39)

CAUTION: Prior to performing the following procedure, remove the MD mechanism base.

1. Remove the four screw Es attaching the CD changer mechanism assembly.
2. To release the two joints on the lower front side of the CD changer mechanism assembly, first move the CD changer mechanism assembly toward the rear, then lift and remove it.

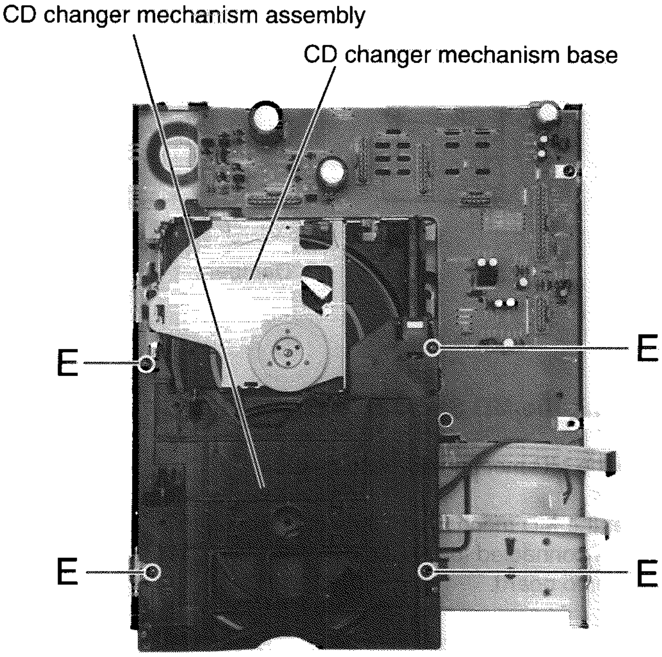

CD changer mechanism assembly
CD changer mechanism base
E
E
E
E

Fig. 7

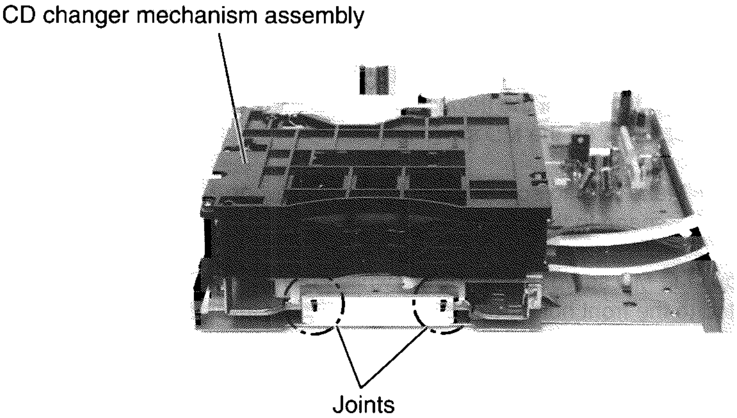

CD changer mechanism assembly
Joints

Fig. 8

< MD Mechanism Assembly >

■ Removing the MD Mechanism assembly (see Fig.1)

1. From the right side of the MD mechanism, remove the three screw As attaching the side bracket.
2. Remove the four dampers in the corners of the MD mechanism.
3. Slide and remove the side bracket and MD mechanism base in the directions of the arrows.

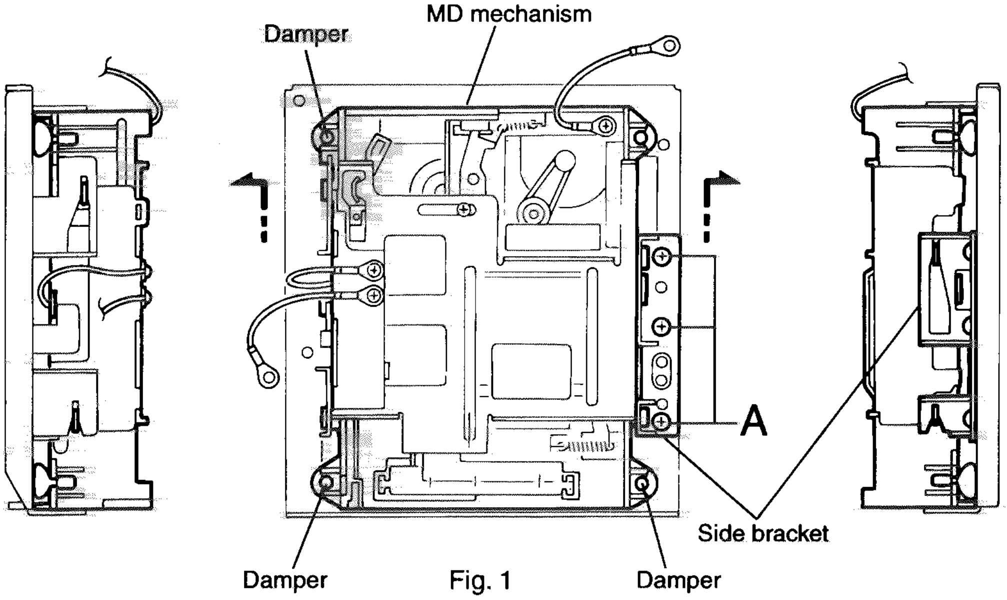

MD mechanism
Damper
A
Side bracket
Damper
Damper

Fig. 1

■ Removing the MD Servo Board (see Fig.2)

1. Remove the MD mechanism assembly.
2. Turn over the MD mechanism, then disconnect the harnesses connected to connector CN407 and CN408 on the MD servo board.
3. Disconnect the flexible wire connected to connector CN521 on the MD servo board (see Fig.2-2).
4. Remove the two screw Bs attached on the reverse side of the MD mechanism.
5. Solder the patterns on the pickup unit as shown in the Fig.2-1, and disconnect the flexible wire connected to connector CN321 on the MD servo board.

   Caution: Make sure to solder the patterns to prevent damage to the pickup unit.

6. Remove the MD servo board upward while pulling out (a) inserted to the front holder of the MD servo board toward the rear.

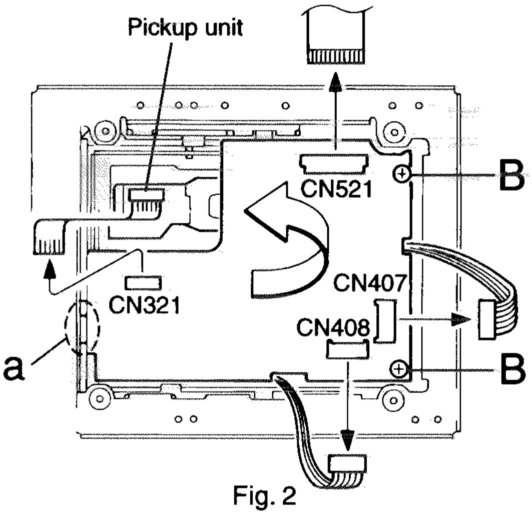

Pickup unit
CN521
B
CN407
CN321
CN408
a
B

Fig. 2

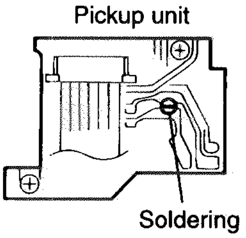

Pickup unit
Soldering

Fig. 2-1

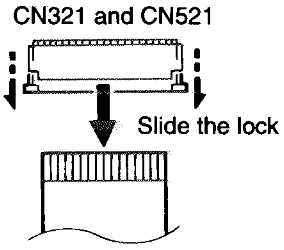

CN321 and CN521
Slide the lock

Fig. 2-2

■ Removing the MD traverse mechanism (see Fig.3,4)

1. Remove the MD mechanism assembly.
2. Remove the MD servo P.C.board.
3. Remove the one screw C attaching the slide bracket.
4. Remove the one screw D attaching the earth lag terminal.
5. Remove the two screws E attaching the MD traverse mechanism, then remove the bracket.
6. Remove the soldered two wires from magnetic head on loading P.C.board.

[CAUTION]

1. When remove the MD mechanism, take care the handling of the magnetic head. Do not broken by hanging other parts.
2. Confirm the pickup is inside position, if remove the pick up at the outside magnetic head hang the other parts.

7. Slide and remove the bracket, then remove the MD traverse mechanism.

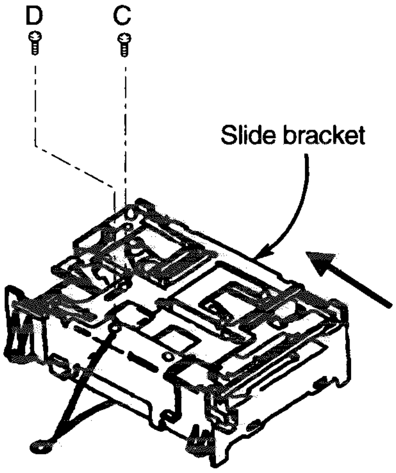

D
C
Slide bracket

Fig.3

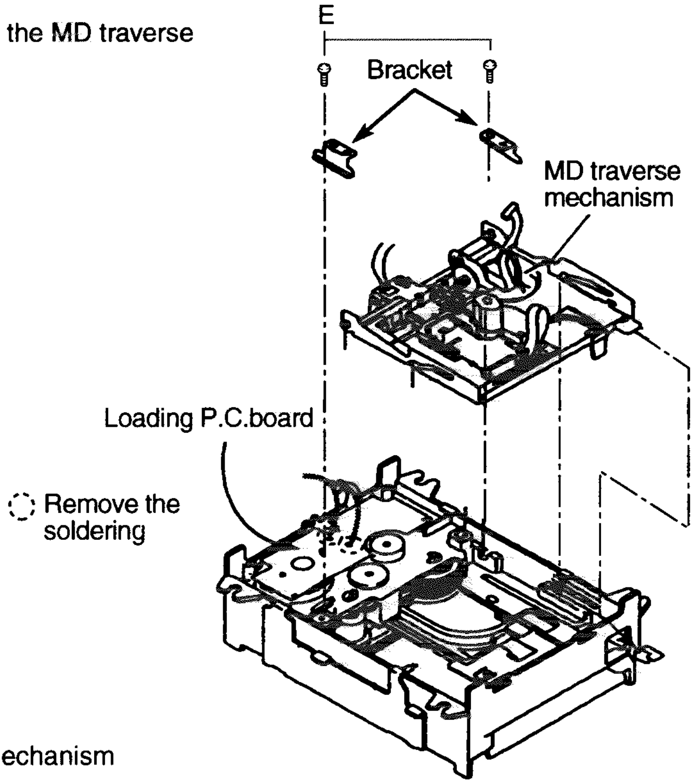

E
Bracket
MD traverse mechanism
Loading P.C.board
◌ : Remove the soldering

Fig.4

■ Caution of reassemble MD traverse mechanism

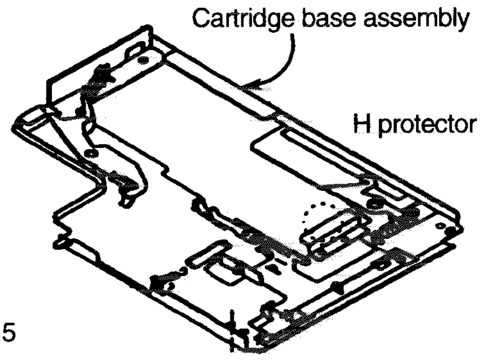
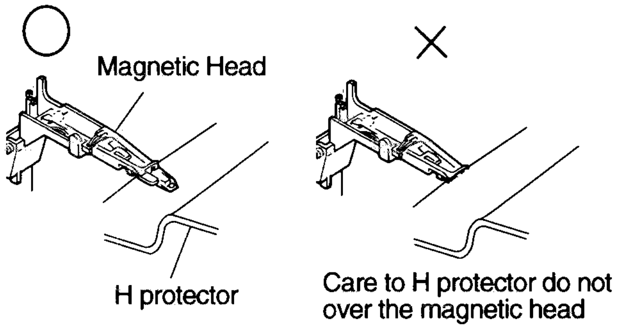

Cartridge base assembly
H protector

Fig.5

Care to cartridge base assembly do not hang the magnetic head

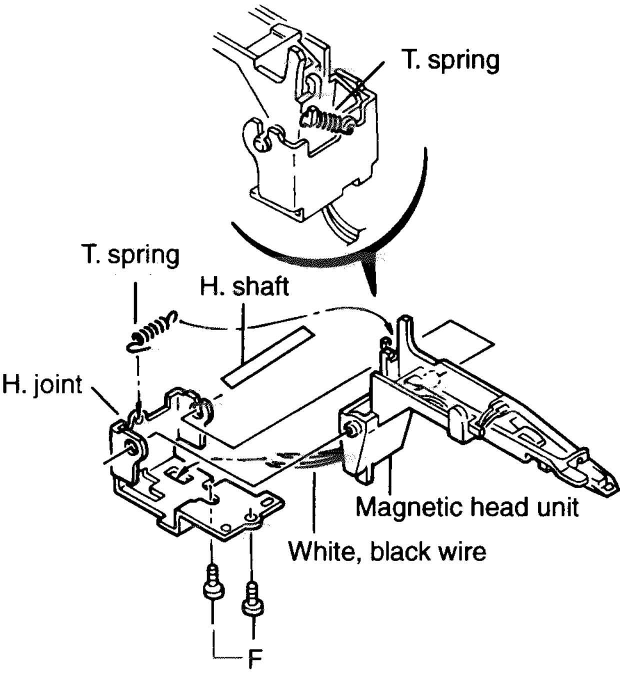

○
Magnetic Head
H protector
×

Care to H protector do not over the magnetic head

■ Removing the magnetic head (see Fig.6 and 7)

1. Remove the MD traverse mechanism.
2. Remove the two screws F attaching the H. joint.
3. Extract the magnetic head, in this time do not touch the lens.
4. Pull out the H. shaft the other side of T. spring.

[CAUTION]
When attach the H. shaft, take care the shaft push in at bent.
Magnetic head to out of position.


T. spring
T. spring
H. shaft
H. joint
Magnetic head unit
White, black wire
F

■ Removing the MD pick up (see Fig.6 to 8)

1. Remove the MD traverse mechanism.
2. Remove the two screws F attach the magnetic head unit. (see Fig.6)
3. Remove the hook, then remove the pick up with the guide shaft to the arrow way.

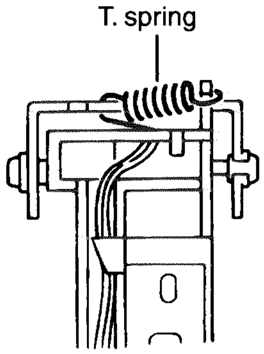


Fig.7

■ Reassembly the MD pick up (see Fig.8)

1. Attach the part of **a** of the pick up to the guide then attach the guide shaft.
2. Confirm the hook fixing the guide shaft.

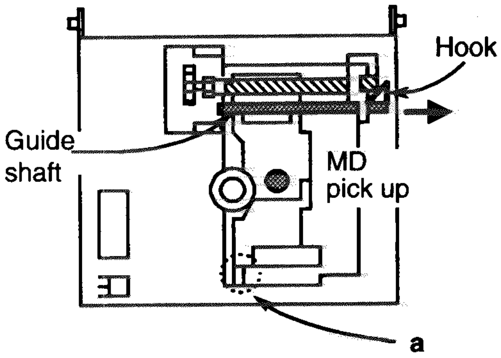

Hook
Guide shaft
MD pick up
a

Fig.8

■ Removing the feed motor assembly (see Fig.9)

1. Remove the traverse mechanism.
2. Turnover the MD traverse mechanism, then remove the soldering two wires attach the P.C.board. (White and black wires)
3. Remove the one screw G attach the motor bracket.
4. Remove the food from the chassis base, then remove the feed motor assembly.

■ Removing the spindle motor assembly (see Fig.6 to 9)

1. Remove the MD traverse mechanism.
2. Pull up the tern table assembly.
3. Turnover the MD traverse mechanism, then remove the soldering two wires attach the P.C. board. (Red and black wires)
4. Remove the two screws H attach the spindle motor.

[CAUTION]
When change the spindle motor, tarn table assembly should change together.
Tarn table assembly can not reuse.

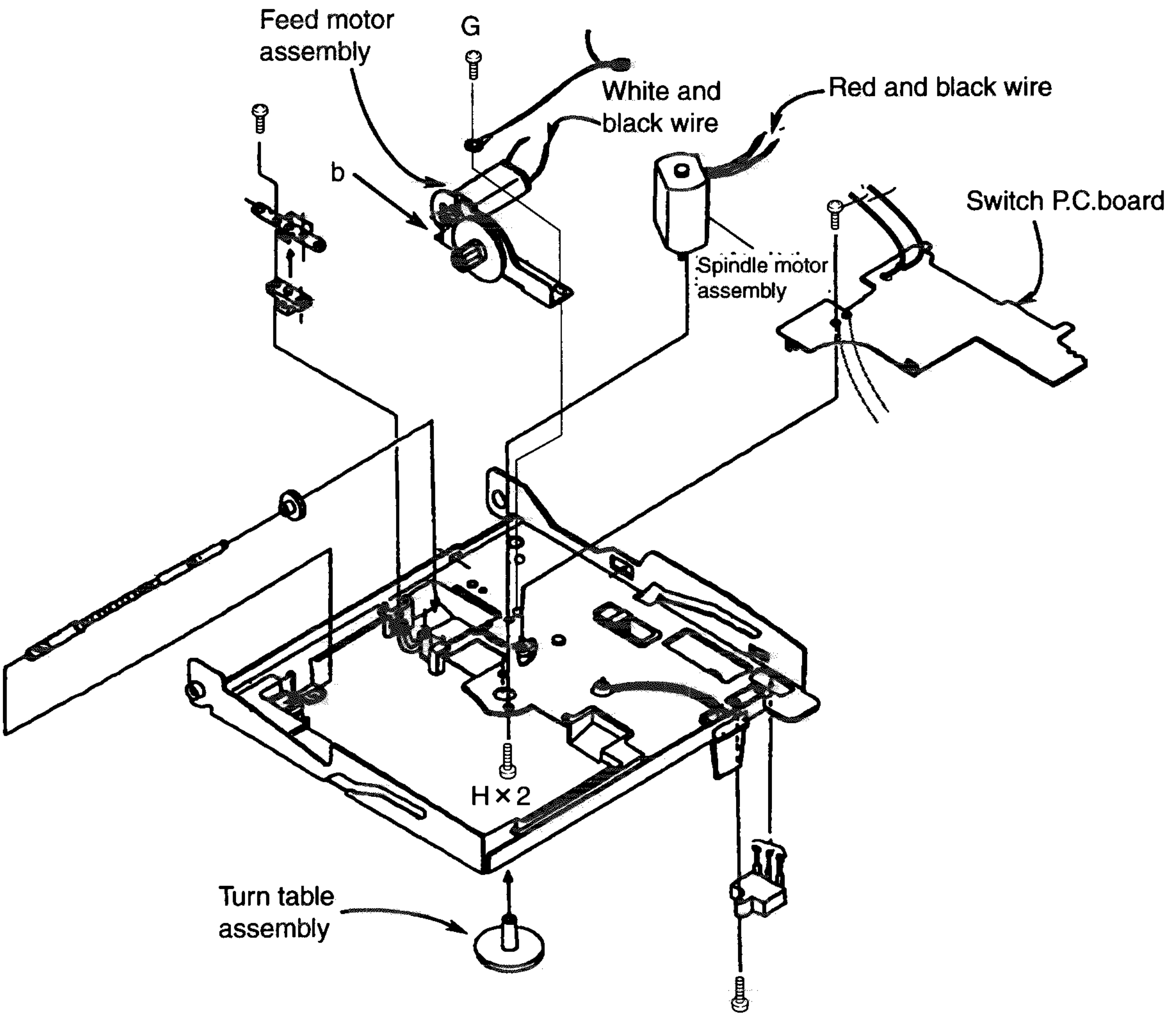

Feed motor assembly
G
White and black wire
Red and black wire
b
Switch P.C.board
Spindle motor assembly
H×2
Turn table assembly

Fig.9

■ Removing the slide bracket (see Fig.10)

1. Remove the MD mechanism
2. Remove the two screws I attaching the slide bracket (L).
3. Remove the slide bracket (L), then remove the slide bracket (R).

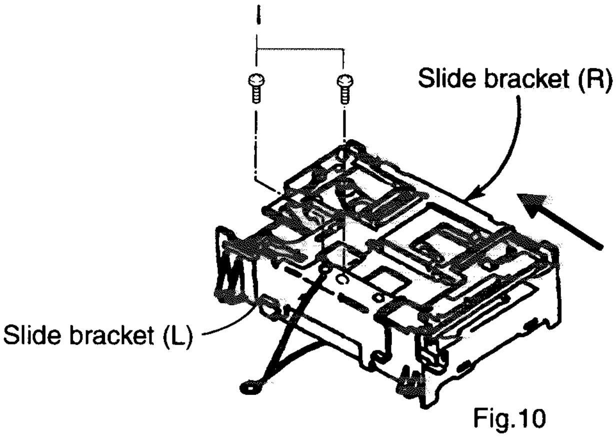

I
Slide bracket (R)
Slide bracket (L)

Fig.10

■ Removing the car. base assembly (see Fig.11 to 13)

1. Remove the MD mechanism assembly, then remove the MD servo P.C.board.
2. Remove the slide bracket (L) and slide bracket (R).
3. Remove the three screws J attaching the car. base assembly, then remove the car. base assembly and lack.

[CAUTION]
When reassembly the car. base assembly and lack, according Fig.12 and 13.

[Attaching the lack]
Through the hook of the shutter lever as follow the fig.11

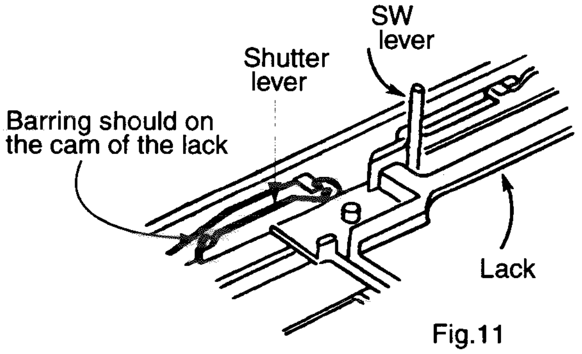

SW lever
Shutter lever
Barring should on the cam of the lack
Lack

Fig.11

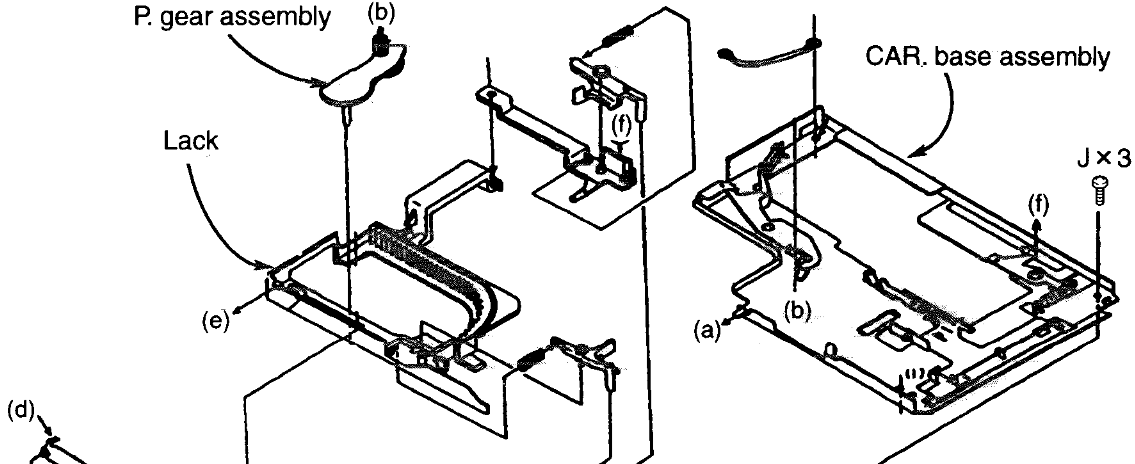
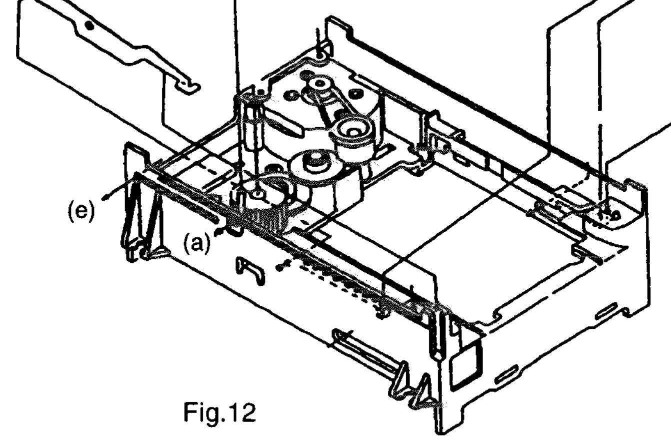


P. gear assembly
(b)
Lack
(f)
CAR. base assembly
J×3
(f)
(e)
(a)
(b)
(d)
(e)
(a)

Fig.12

Attaching the P. gear assembly

After attaching the lack, lack full shift to front side, then attach the P. gear assembly.

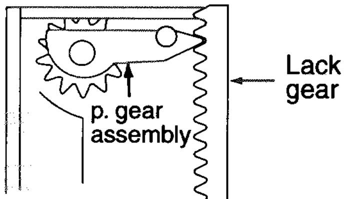
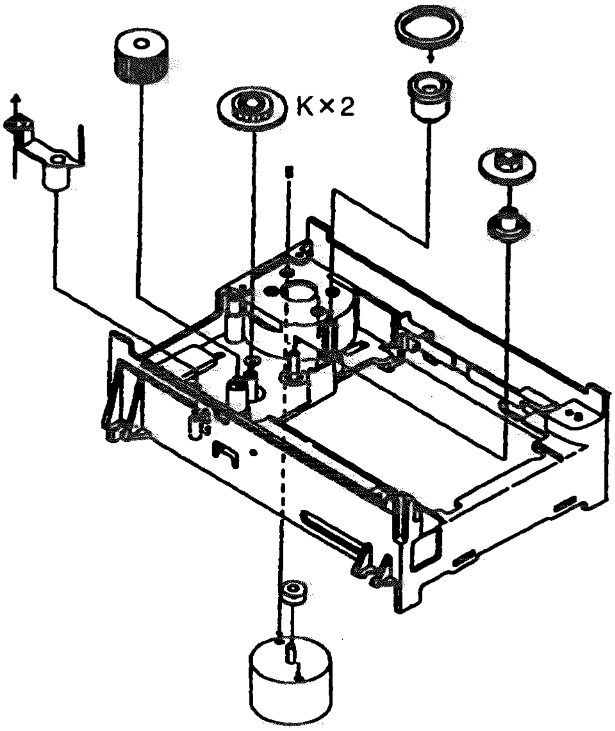

Lack gear
p. gear assembly

Fig.13

■ Removing the loading base assembly (see Fig.14)

1. Remove the car. base assembly and lack.
2. Remove the two screws K attaching the loading motor.
3. Remove the soldering loading motor assembly on the loading P.C.board.

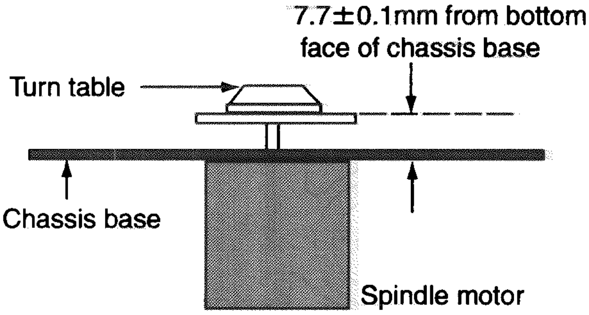


Loading motor assembly

Fig.14

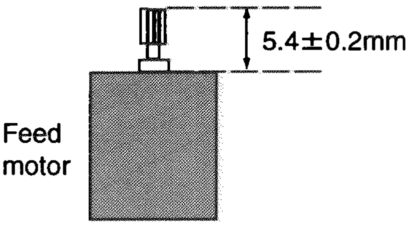
■ Attaching the parts for each motors (see Fig.15 to 17)

1. Attach the turn table assembly to spindle motor is according Fig.15.
2. Attach the gear to feed motor is according Fig.16.
3. Attach the pulley to loading motor is according Fig.17.


7.7±0.1mm from bottom face of chassis base
Turn table
Chassis base
Spindle motor

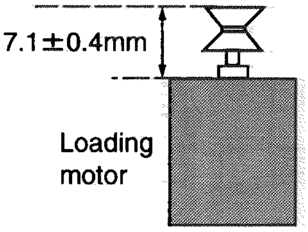
Attachment of turn table

Fig.15


5.4±0.2mm
Feed motor

Attachment of gear

Fig.16


7.1±0.4mm
Loading motor

Attachment of pulley

Fig.17

<CD Traverse Mechanism Section>

■ Removing the CD Mechanism Section

1. Remove the CD traverse mechanism assembly from the body.
   Caution 1: Prior to removing CD traverse mechanism assmbly, be sure to set all of the sub-trays to the [STOP]mode.
   Caution 2: In the case of removing the mechanism when this system has been set to the [PLAY] mode, the slide cam L on the left side of the CD traverse mechanism should bemoved in the arrow A direction and positioned to [A] . Under this condition, the CD traverse mechanism will be lowered to the position as shown in Fig. 1.
2. Remove the four screw ① retaining the top cover (see Fig. 2).
3. After pulling out the rod from the clamper, remove it together with the top cover (see Fig. 2 and 2-a).
4. Pull out the CD tray.
5. Remove the one screw ② retaining the clamper (see Fig. 3).
6. After moving the clamper in the arrow B direction and shifting it in the arrow C direction, take it out from the engagement section [B] (see Fig. 3).

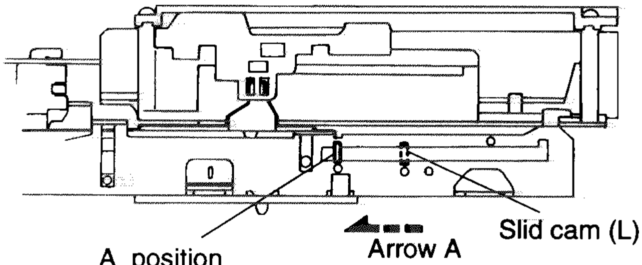

A position
Arrow A
Slid cam (L)

Fig. 1

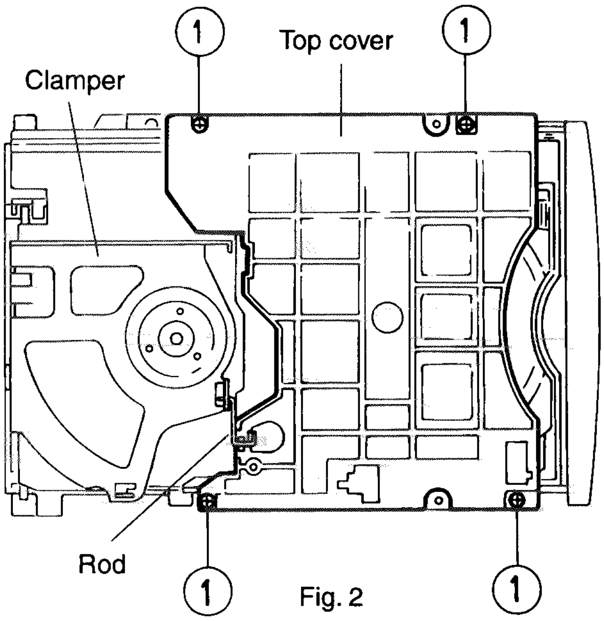

①
Top cover
①
Clamper
Rod
①
①

Fig. 2

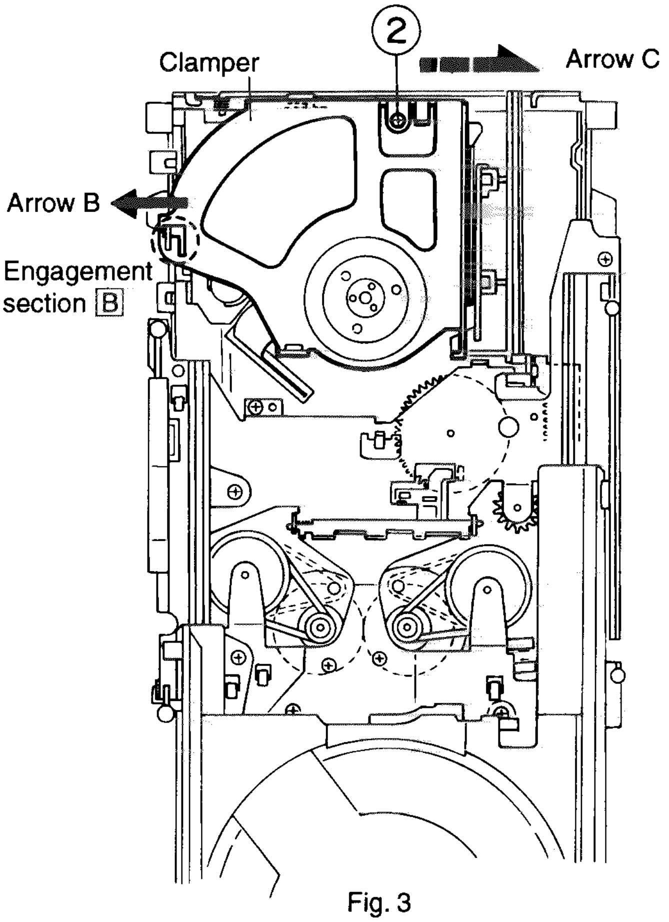

Clamper
②
Arrow C
Arrow B
Engagement section [B]

Fig. 3

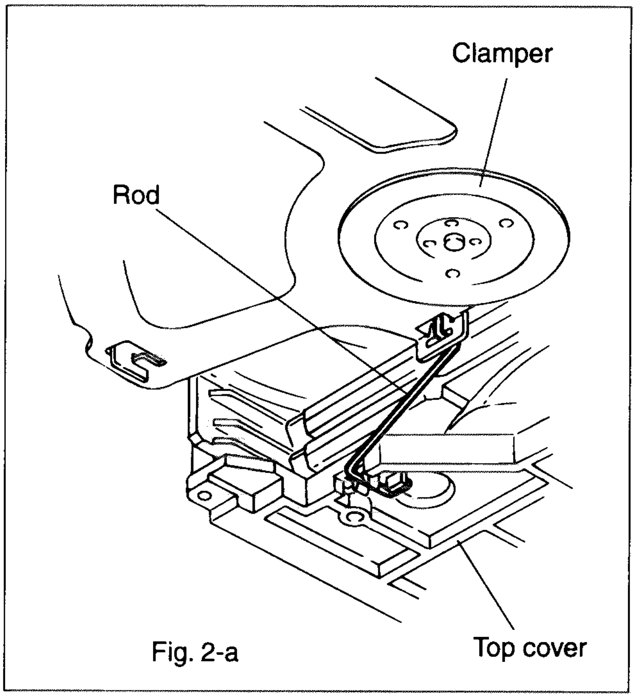

Clamper
Rod
Top cover

Fig. 2-a

7. Move the center pawl in the arrow D direction and remover the stopper fixing the CD mechanism as shown in Fig. 4.
8. Remove and take out the three insulators from the CD mechanism by using tweezers and so forth (see Fig.4).
9. By soldering, fill the position (in Fig. 5) of the flexible P.C. board outgoing from the CD mechanism.
10. From the connector CN601 on the CD traverse mechanism control & servo P.C. board, remove the flexible P.C. board (see Fig. 5).
    Caution : Since it will be hard to remove the flexible P.C. board from the connector CN601, use pliers after covering with cloth, etc. so as not to cause any damage to the P.C. board and connector.

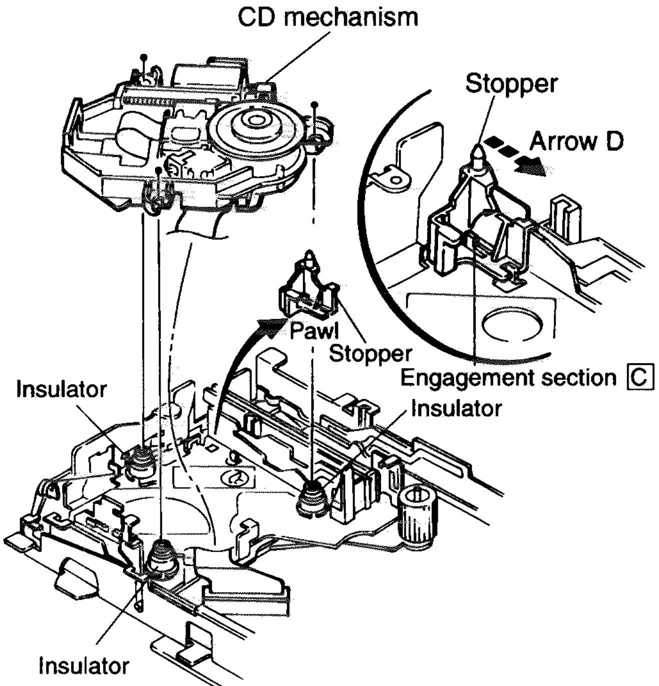

CD mechanism
Stopper
Arrow D
Pawl
Stopper
Engagement section C
Insulator
Insulator
Insulator

Fig. 4

- Procedures for Reassembling the CD Mechanism

: In principle, reassemble the CD mechanism according to the opposite orders of the removing steps. Meanwhile, be sure to remove any filled portion by soldering in "Removing Step" above.

: After aligning the engagements B and C at the position where the CD mechanism has been lowered as described in "Removing Step", be sure to mount the mechanism straight and fix the mechanism with screws.

: After aligning the slide cam R as shown in Fig. 6 (see Removing Step", mount the top cover and fix the mechanism with screws.

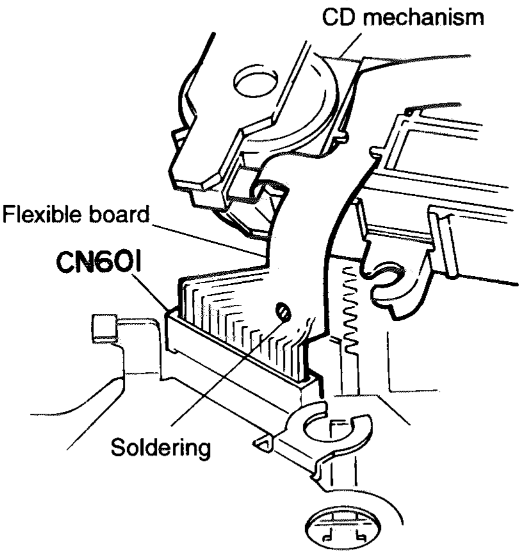

CD mechanism
Flexible board
CN601
Soldering

Fig. 5

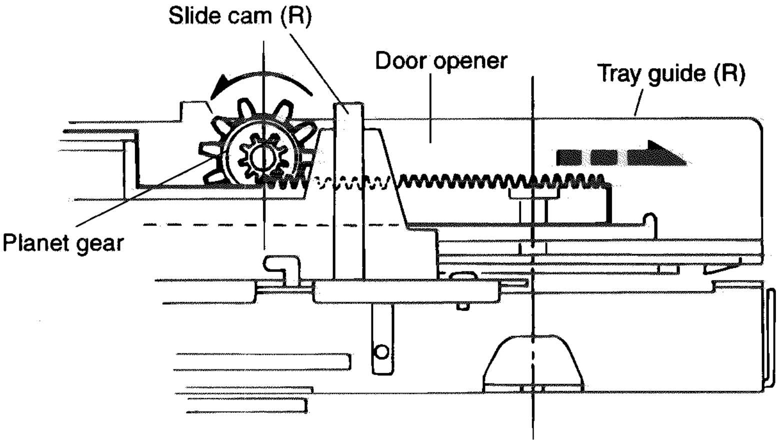
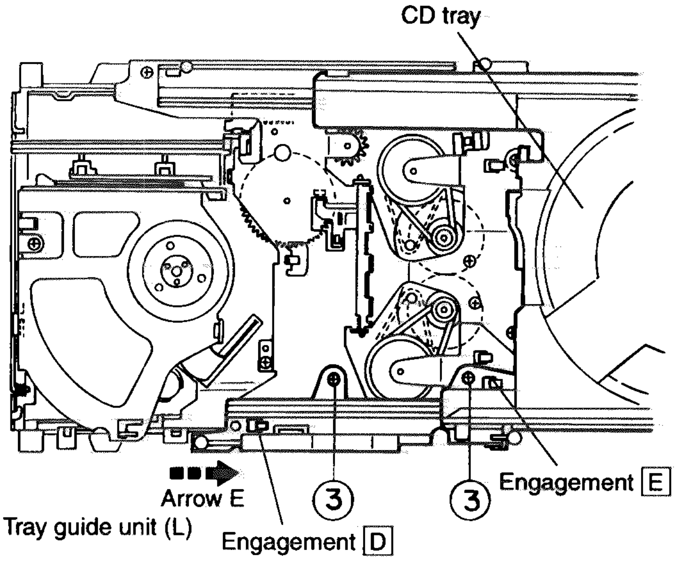

Slide cam (R)
Door opener
Tray guide (R)
Planet gear

Fig. 6

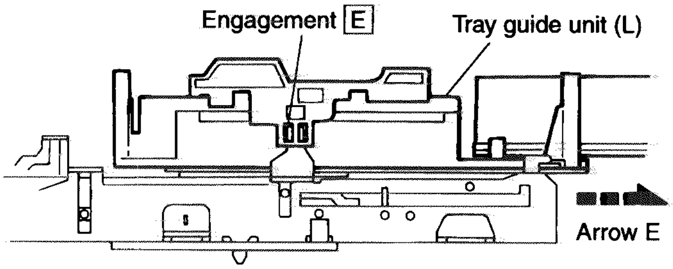
■ Removing the CD Tray

1. Remove the top cover.
2. Pull out the CD tray.
3. Remove the two screws ③ retaining the tray guide (L) unit (see Fig. 7).
4. Disengage the two engagements D fixing the tray guide (L) unit while moving the engagements in the arrow E direction (see Fig. 8).
5. Pull out the engagement E from the mechanism chassis, and remove it together with the CD tray (see Fig. 8).



CD tray
Arrow E
Tray guide unit (L)
③
Engagement D
③
Engagement E

Fig. 7

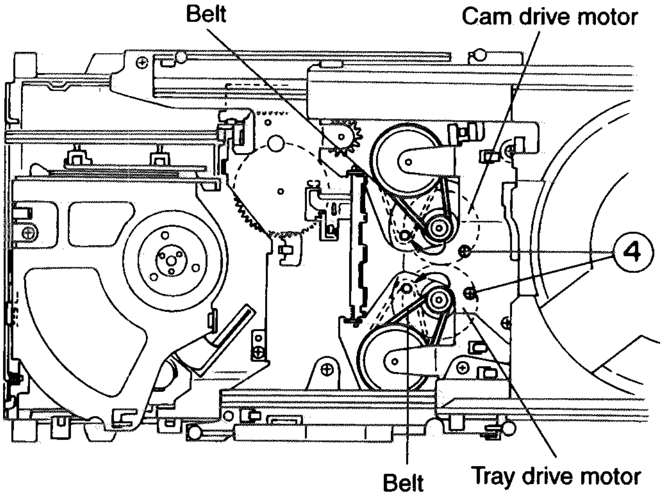


Engagement E
Tray guide unit (L)
Arrow E

Fig. 8

■ Removing the CD Traverse Mechanism Control & Servo P.C. Board

1. Remove the top cover.
2. Pull out the CD tray.
3. The two bolts which have been dismounted from the tray & cam drive motor should be hanged again to the motor pulley as shown in Fig. 9.
4. Remove the two screws ④ retaining the tray & cam drive motor (see Fig. 9).



Belt
Cam drive motor
④
Belt
Tray drive motor

Fig. 9

5. after turning over the CD traverse mechanism, remove the four screws ⑤ retaining the CD traverse mechanism control & servo P.C. board (see Fig. 10).
6. While raising the P.C. board, perform soldering to fill the position on the flexible P.C. board outgoing from the CD pick up unit (see Fig. 11).
7. After turning over the CD traverse mechanism, remove the flexible P.C. board from connector CN601 on the CD traverse mechanism control & servo P.C. board (see Fig. 11).
8. Remove the CD traverse mechanism control & servo P.C. board.

- Procedures for Reassembling the CD Traverse Mechanism Control & servo P.C. Board.
  - In principle, this P.C. board should be reassembled according to the opposite removing steps.
    For mounting the CD traverse mechanism control & servo P.C. board, insert the main switch (blue) on the P.C. board into the position in Fig. 12.
  - Be sure to hang the two belts which have been dismounted from the tray & cam drive motor.

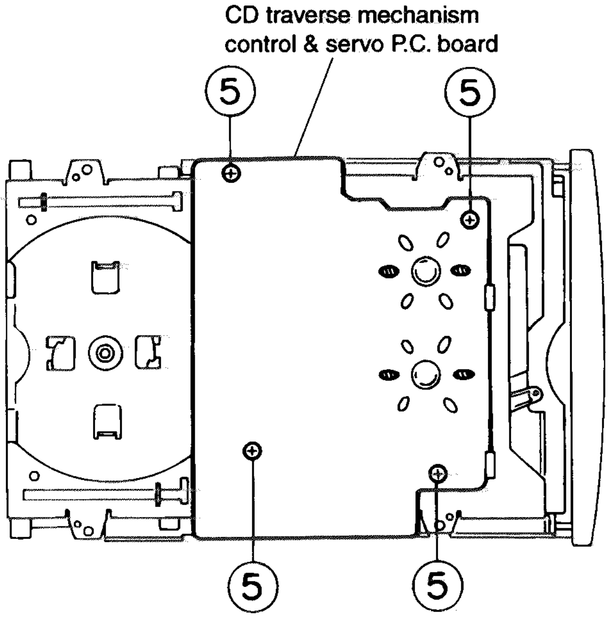

CD traverse mechanism control & servo P.C. board
⑤
⑤
⑤
⑤

Fig. 10

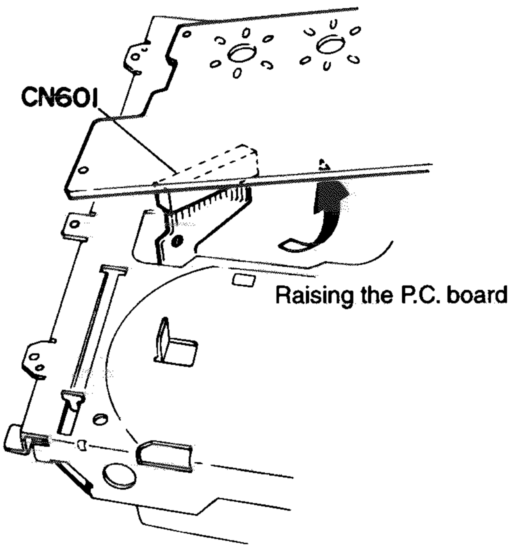

CN601
Raising the P.C. board

Fig. 11

■ Removing the Cam and Tray Drive motors

1. Remove the top cover.
2. Pull out the CD tray.
3. Remove the CD traverse mechanism control & servo P.C. board.
4. After removing the two soldered points ⓐ on the surface of the CD traverse mechanism control & servo P.C. board, remove the tray drive motor (see Fig. 13).
5. After removing the two soldered points ⓑ on the surface of the CD traverse mechanism control & servo P.C. board, remove the cam drive motor (see Fig.13).

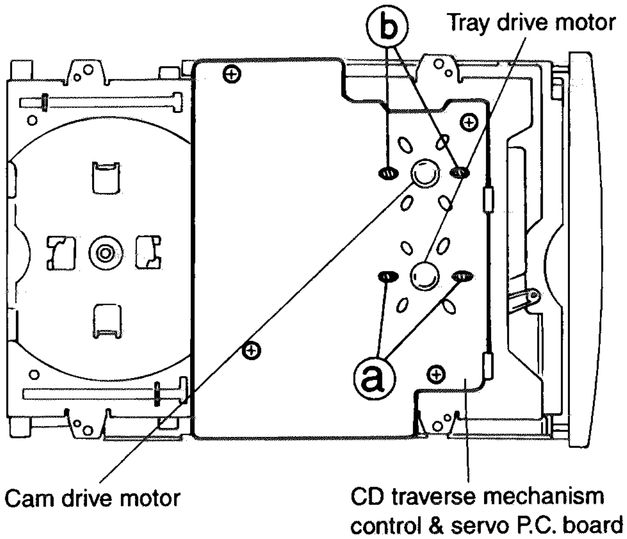

ⓑ
Tray drive motor
ⓐ
Cam drive motor
CD traverse mechanism control & servo P.C. board

Fig. 13

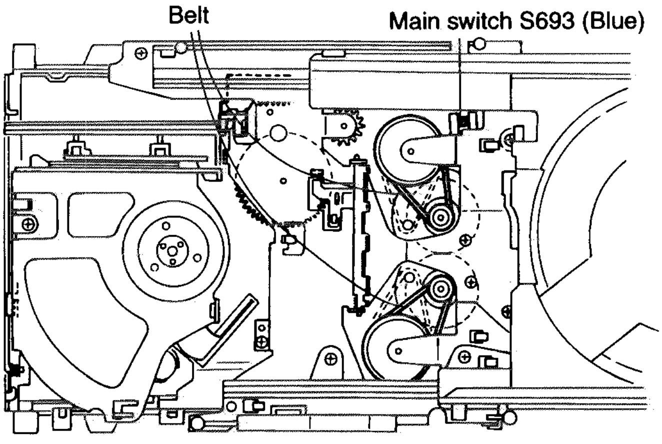

Belt
Main switch S693 (Blue)

Fig. 12

■ Removing the CD Pick Up Unit

1. Remove the top cover.
2. Pull out the clamper.
3. Remove the CD mechanism.
4. Shift the CD pick up unit in the arrow F direction (see Fig. 14).
5. Remove the one screw 6 retaining the shaft holder (see Fig. 14).
6. After removing the two screws 7 retaining the rack arm, take out the S.S. gear assembly (see Fig. 14).
7. By soldering, fill the position on the back surface of the CD pick up unit (see Fig. 15).
8. Remove the flexible P.C. board from the connector on the back surface of the CD pick up unit.

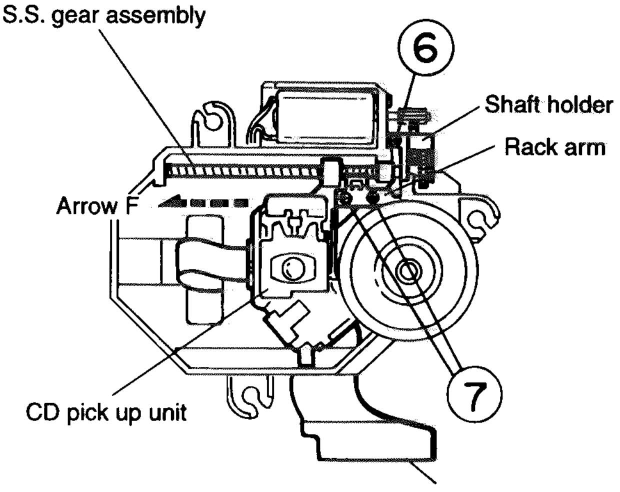

S.S. gear assembly
6
Shaft holder
Rack arm
Arrow F
CD pick up unit
7
Flexible P.C. board

Fig. 14

● Procedures for Reassembling the CD Pick up Unit

In principle, this unit should be reassembled according to the opposite order of the removing steps.

Caution

Take rack arm should be screw-clamped first from the rounf hole.

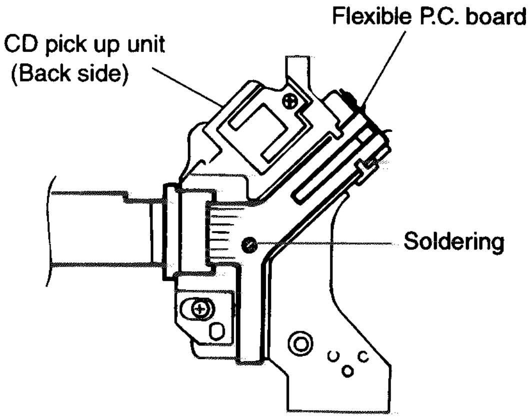

Flexible P.C. board
CD pick up unit
(Back side)
Soldering

Fig. 15

■ Removing the Feed Motor Assembly

1. Remove the top cover.
2. Pull out the clamper.
3. Remove the CD mechanism.
4. After removing the one screw 8 retaining the feed motor assembly, take out this assembly (see Fig. 16).
5. After turning over the CD mechanism, remove it from the lead wire treating key way on the feed motor assembly (see Fig. 16).
6. Remove the soldered portion of the lead wires (red and black) from the spindle motor P.C. board (see Fig. 16).

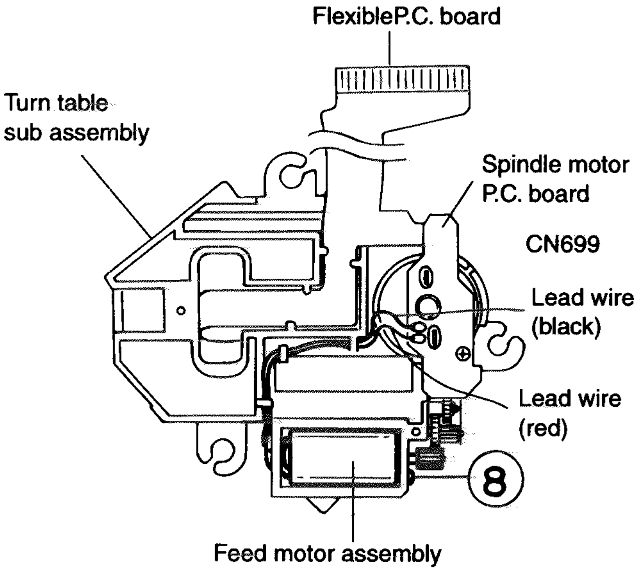

FlexibleP.C. board
Turn table
sub assembly
Spindle motor
P.C. board
CN699
Lead wire
(black)
Lead wire
(red)
8
Feed motor assembly

Fig. 16

■ Removing the Spindle Motor Assembly

1. Remove the top cover.
2. Pull out the clamper.
3. Remove the CD mechanism.
4. Remove the CD pick up unit.
5. Pull out the middle gear.
6. Remove the feed motor.
7. After turning over the CD mechanism, remove the two soldered portions c on the spindle motor P.C. board (see Fig. 17).
8. After removing the flexible P.C. board from the connector CN699 on the spindle motor P.C. board, take out the flexible P.C. board from the turn table subassembly (see Fig.17).
9. The spindle motor and turn table will not be supplied individually as single units but as a turn table sub-assembly (in combination with the spindle motor, turn table and mechanism chassis). Therefore, be sure to change the sub-assembly instead of changing the individual spindle motor turn table alone.
   Caution : Since LOCK-TIGHT 460 is applied for press-in sections of the turn table and spindle motor shaft, be sure to remove the shaft so carefully as not to cause any damage the spindle motor.

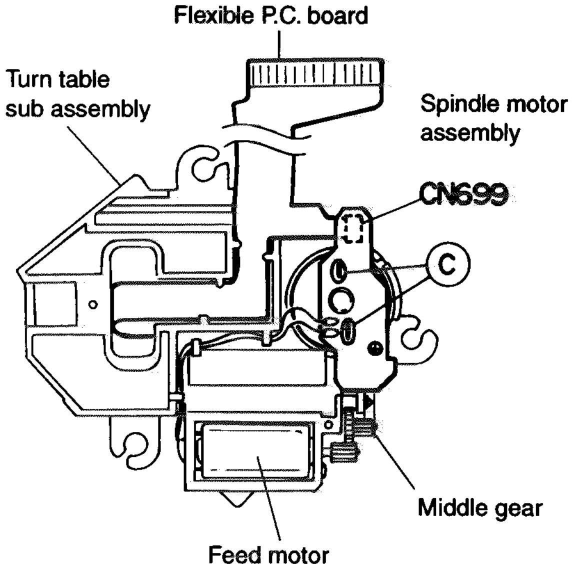


Fig. 17

■ Removing the Spindle Motor Assembly

1. Remove the top cover.
2. Remove the CD tray together with the tray guide (R).
3. Remove the four screws ⑨ retaining the actuator unit (see Fig. 18).
4. Remove the two screws ⑩ retaining the tray & cam drive motor (see Fig. 18).
5. Hang the two belts remove from the tray and cam drive motor again to motor as shown in Fig. 18.
6. While holding down the section G with a finger, remove the two pawls H retaining the actuator unit.

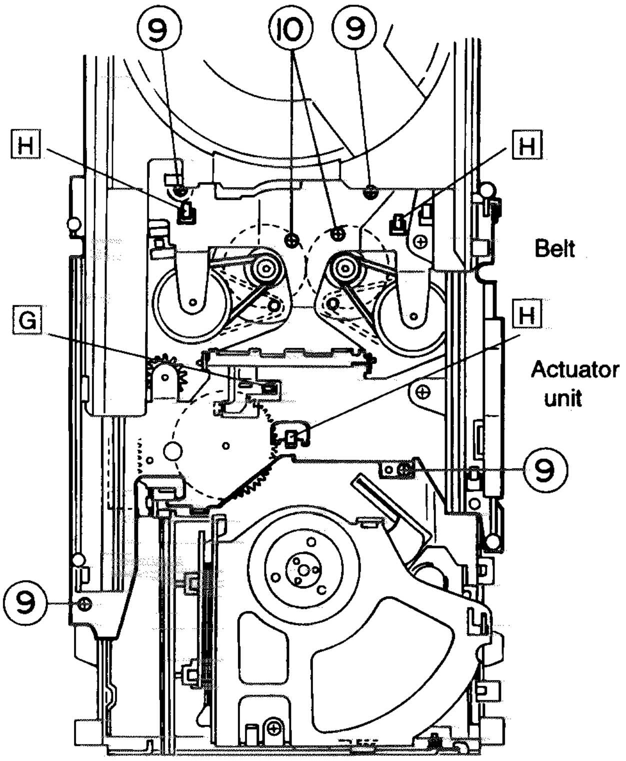


Fig. 18

Method of pulling out the CD tray in case the CD driver mechanism has been dismounted under [PLAY] mode

1. Press forward the hock slider assembly unit it stops as shown in Fig. 19.
2. Move the slide cam (L) on the left side of the CD driver mechanism assembly in the arrow A direction and position it to A . Then, the CD driver mechanism will be kept at the lowered position (see Fig. 1).

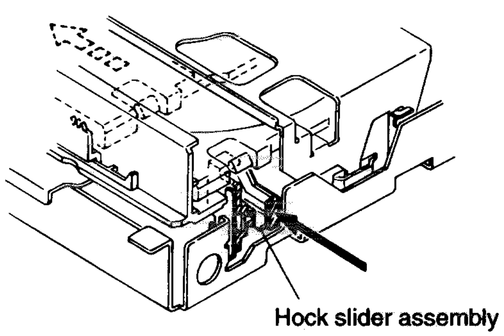


Fig. 19

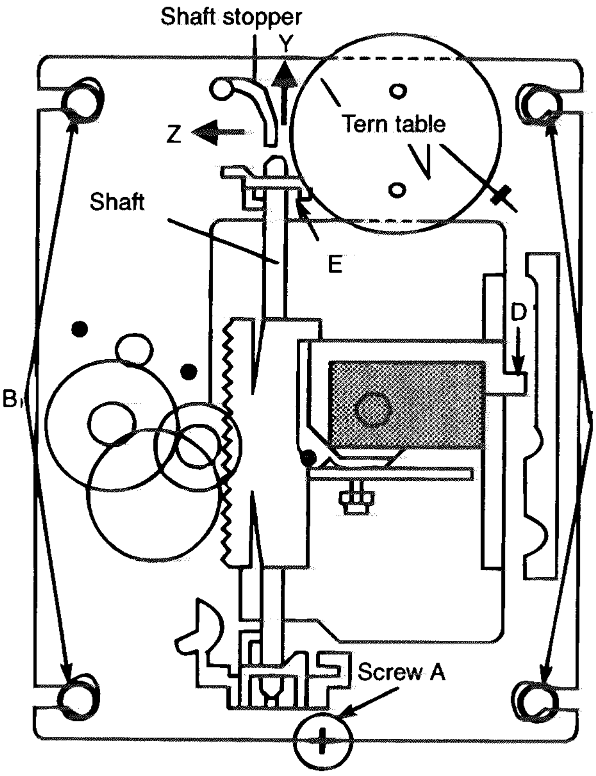
Disassembly of the Traverse Mechanism

1.Remove the Pick up

1) Remove the traverse mechanism assembly.
2) Remove the Pick up cover.
3) Remove the screw A of the mechanism base assembly.
4) Remove the mechanism base assembly from rubber cushion B and C.
5) Shift the shaft stopper to Z way, then slide off the shaft to Y way.
6) Remove the flat wire from the APC circuit board, then remove the pick up unit.

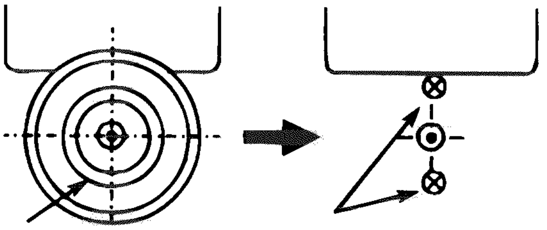
2.Attatching the Pick up

1) Attach the flat wire to APC circuit board.
2) Remove the shorted solder of protect the static electrical broken for pick up.
3) Insert the part D to mechanism base, then insert the shaft from part E.
4) Through the shaft to the pick up hole, then attach the pick up to mechanism base.
5) Attach the mechanism base to the rubber cushion B and C of mechanism base assembly.



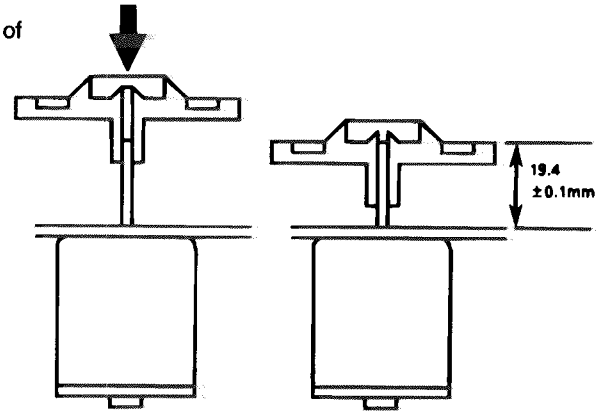
3. Remove the spindle motor

1) Remove the mechanism base assembly.
2) Remove the turntable, then remove the two screws of the motor.
3) Remove the one screw of the motor circuit board.
4) Remove the solder then remove the motor.

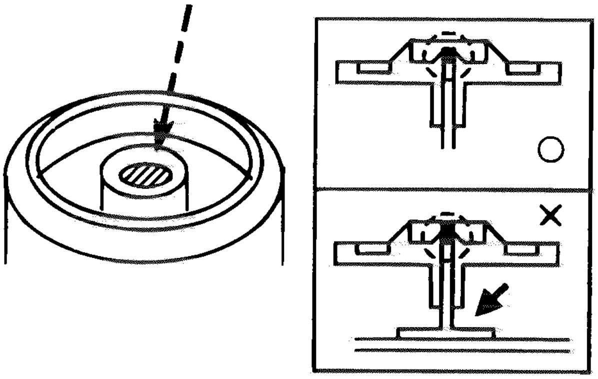


4.Attach the spindle motor

1) Attach the two screws the fix the spindle motor to base.
2) Fix the motor circuit board by screw, then solder the motor terminal.
3) Press the center position of the tern table from upper side, adjust the position from the mechanism base to upper side of the tern table as 19.4±0.1mm.



4) After press-fit, Fix the motor shaft and turntable by locktight No.460. (Part of the arrow)



CAUTION) Volume is a very little like a figure, do not over flow on the turn table.
Adhesive is should not touch the motor shaft hold part. (Arrow part)

Maintenance of Laser Pickup (MD)

1. Cleaning of pickup lens

(1) Prior to changing the pickup, clean the pickup lens.

(2) For cleaning the lens, use the following cotton swab after mearsing it in alcohol.

Product No. JCB-B4; Manufacturer;Nippon Cotton Swab

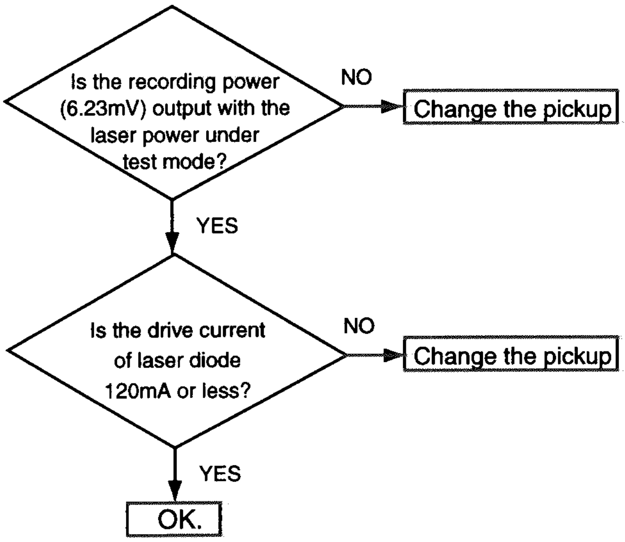
2. Confirmation of the service life of laser diode when the service life of the laser diode has been exhausted, the following symptoms will appear.

(1) Recording will become impossible.

(2) The RF output (EFM output and eye pattern amplitude) will become lower.

(3) The drive current required for light emitting of laser diode will be increased.

Confirm the service life according to the following flow chart:

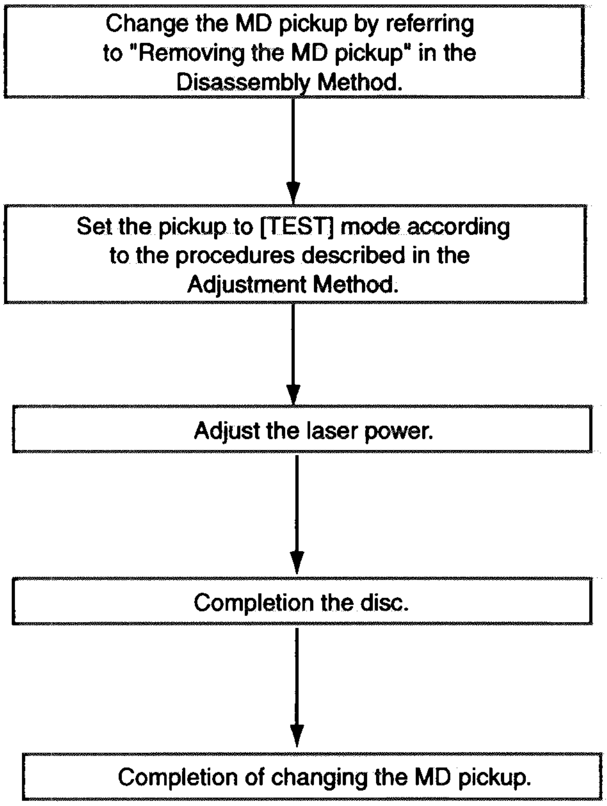

Is the recording power (6.23mV) output with the laser power under test mode?
NO
Change the pickup
YES
Is the drive current of laser diode 120mA or less?
NO
Change the pickup
YES
OK.

3. Method of measuring the drive current of laser diode

When the voltage measured at TP ILCC (Q301 emitter) and +5V (Q303 emitter) of the MD servo P.C. board (ENX-0223) have become 600mV or over, the service life of the laser diode is judged to have been exhausted.

[Caution] When TP ILCC (Q301 collector) and +5V (Q303 emitter have been is short circuit on such an occasion, then the laser diode will be broken. Therefore, take utmost care in handling the MD pickup.

Replacement of Laser pickup (MD)


Change the MD pickup by referring to "Removing the MD pickup" in the Disassembly Method.
Set the pickup to [TEST] mode according to the procedures described in the Adjustment Method.
Adjust the laser power.
Completion the disc.
Completion of changing the MD pickup.

★Since this system is designed to perform magnetic recording, the laser power ten times or over of the conventional MD player will be output. Therefore, be sure to perform not only adjustment and operation of this system so carefully as not to directly look at the laser beam or touch on the body.

4. Semi-solid state resistors on the APC P.C. board

The semi-solid state resistor on the APC P.C.board attached to the pickup is used for adjusting the laser power. Since these resistor should be adjusted in pair according to the characteristics of the optical block, be sure not to touch on the resistors.

Since the service life of the laser diode will be exhausted when the laser power is low, it is necessary to change the pickup. Meanwhile, do not pickup. Otherwise, the pickup will be damaged due to over current.

Adjustment Methode

1. Jig List

   (1) Equipment : Oscilloscope, Laser power meter (Adventest TQ8210 or equivalent)
   Recordable disc, Remote controller

   (2) Test disc : Premastered disc "MRG-1018"

2. Setting for adjustment test mode

   Adjustment of electrocal section is done the TEST MODE to ON.
   Setting the test mode by press the "STOP" key and "PLAY/PAUSE" key of the main body, keep this condition joint the AC plug.
   FL tube indicate "MD TEST MODE", to the next, press the "POWER" key of the main body, FL tube indicate "☐ MD-NO-DISC".

3. Adjustment

   Compare with previous CD players, over 10times laser beam is radiated from this model.
   Because of the magnetic recording.
   Please use enough caution not to see the beam directly or touch it case of an adjustment or operation check.
   The wound and note taintless on the disc used because the adjustment is automatically done bt the disc confirmation after the laser power is adjusted, and a set value is written by all the recorded mode.

4. Release the TEST MODE

   Finish the confirmation, press the "POWER" key of remote controller, release the TEST MODE.

5. Unit operation mode

   Remote controller mode to MD by adjustment test mode, operation check mode done the next code.

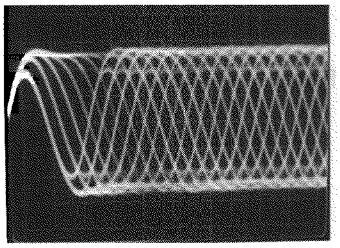
Remote controller key	**Operation mode function**
SLEEP key	Focus gain
6 key	Pit rough servo
7 key	Group rough servo
8 key	Tracking ON
9 key	Tracking OFF
STOP key	STOP
Main unit EJECT key	EJECT

This model is not basically adjusted.

Initialize for EPROM : Adjusted data clea by press "REC PAUSE key", use remote controller changed function MD mode at TEST MODE condition.

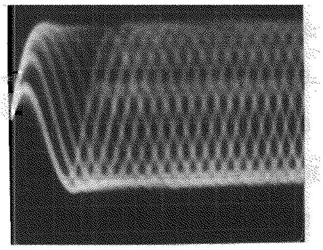
ITEM	Adjustment method	Adjustment point	Standard value
1.Laser Power Adjustment	1. Laser diode to ON playback condition when press Remote controller ten key "2". In this time measure the laser beam power by laser power meter, dadjust laser beam power by main unit ▶▶| key (laser power up) and |◀◀ key (laser power down). 2. Laser diode to ON Recording condition when press Remote controller ten key "4". In this time measure the laser beam power by laser power meter, adjust laser beam power by main unit ▶▶| key (laser power up) and |◀◀key (laser power down). 3. Complete the adjustment, press "STOP key" of remote controller then press "EJECT button" of main unit. CUTION This adjustment is easy to broken the LASER DIODE, to much care the handling.	Main unit ▶▶| key Main unit |◀◀ key	1.More than and cross 0.68mW 1.More than and cross 6.23mW
2.Disc Adjustment	1. Compleat the laser power adjustment, insert the premasterd disc, press remote controller "PLAY key", the LCD indicate "ON TUNING" then done the adjustment. Complete the adjustment result is OK, LCD indicate "OK TUNING", case NG, LCD indicate error code like a "NG ERR:E1". 2. Insert the recordable disc, press remote controller "PKAY key", the LCD indicate "ON TUNING" then done hte adjustment, resulr is OK, LCD indicate "OK TUNING",case NG, LCD indicate error code likea "NG ERR:1". 3. Case of LCD indicate NG, it was adjustment no good. Change the disc then try again. CAUTION Disc confirmation is should done the after laser power adjustment. And use disc of disc confirmation disc should not has scratch or dirty. Recordable disc is should use full recorded disc.	No adjustment point cause automatical adjustment system	————

RF signal waveform of premastered disc



0.2V/div. 0.5msec/div.

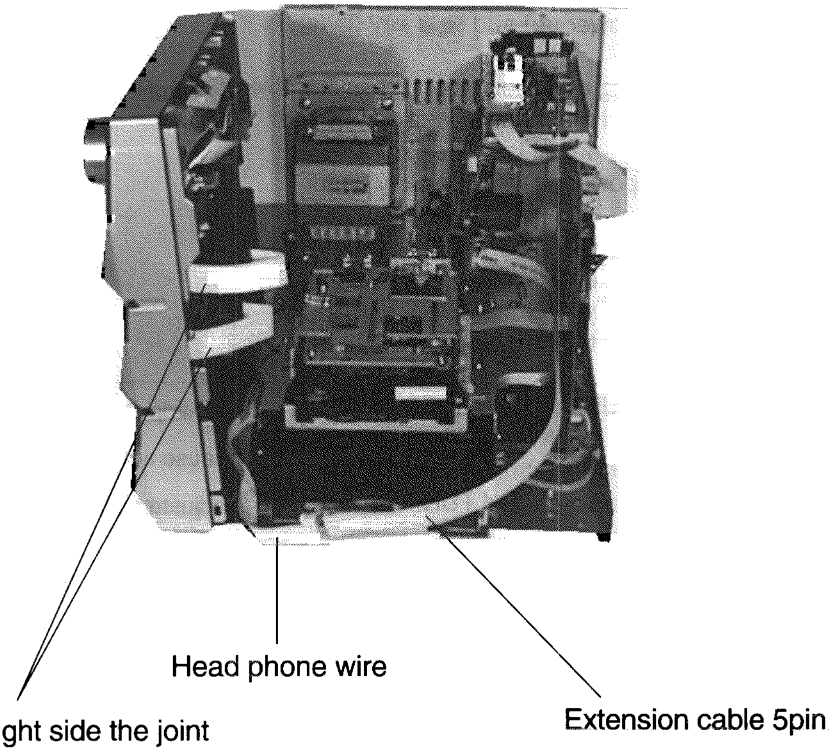
RF signal waveform of recordable disc



0.2V/div. 0.5msec/div.

Extension wires

When confirm the electrical operation check without top cover, head phone cable is use the extension cable.
Extension cable use the one of the EXTQ5-JIG.
(If use the head phone this extension wire is no need.)



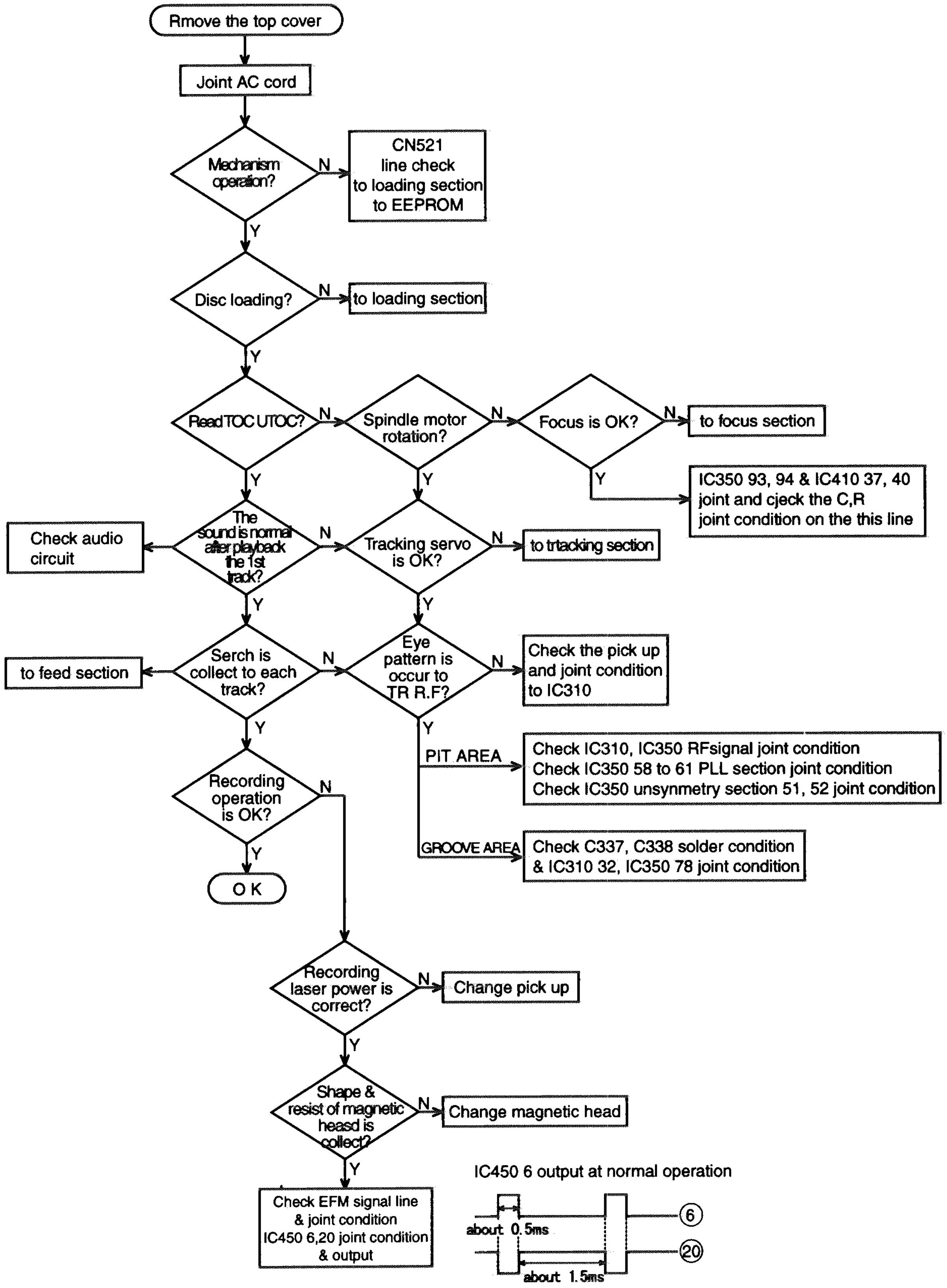
About removal

The case of remove front panel, please according the removal section.

Remove the only internal assembly,

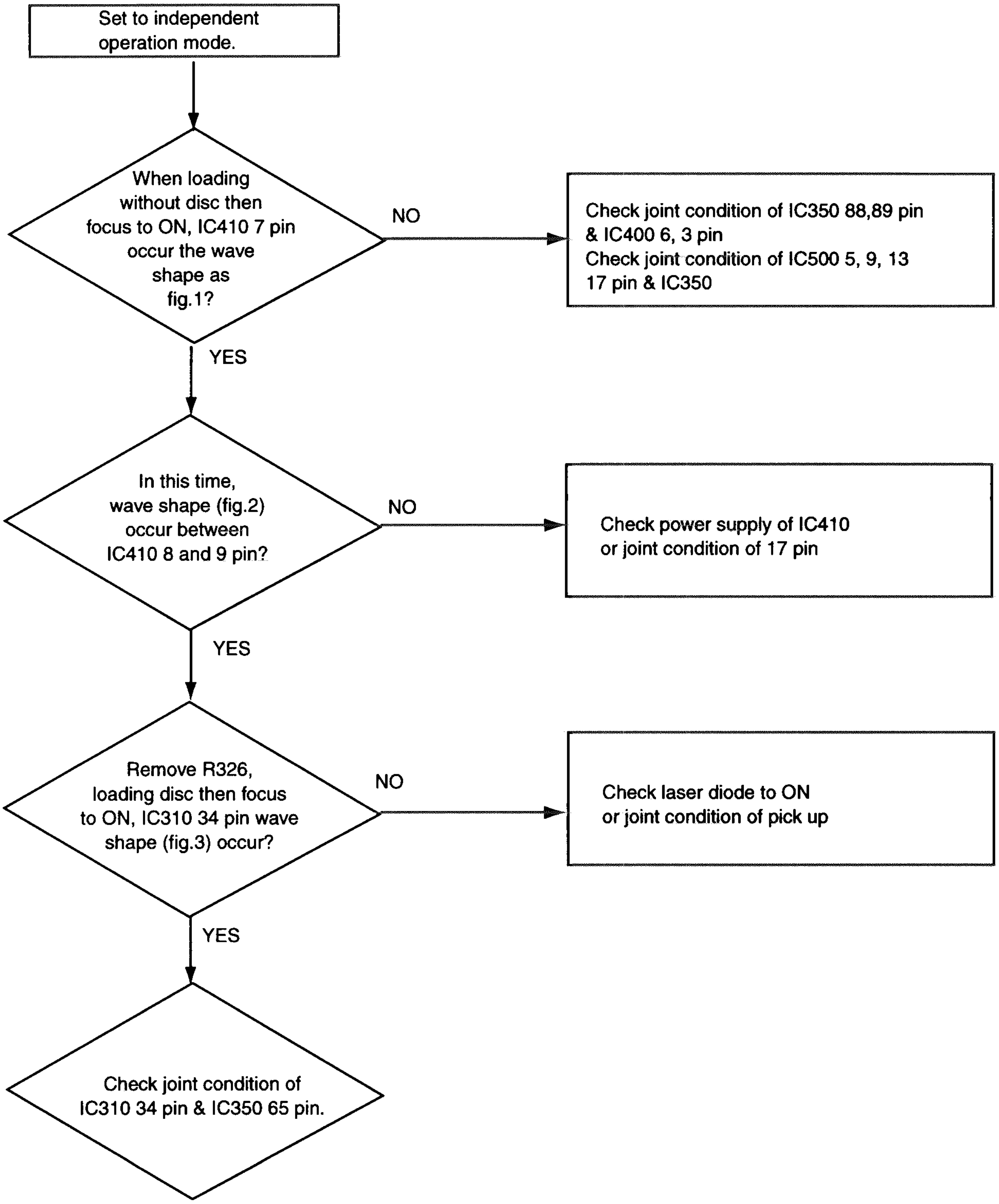
1. Remove the metal cover, then remove the rear panel.(Remove 21pcs screws)
2. Remove the power supply assembly.
3. Remove the MD chassis assembly.
4. Remove the CD chassis assembly.
   Case of remove the CD assembly, remove the CD fixing screws from MD chassis hole, when release CD mechanism after that re-joint to Main P.C. board assembly.

Troubleshooting of MD section

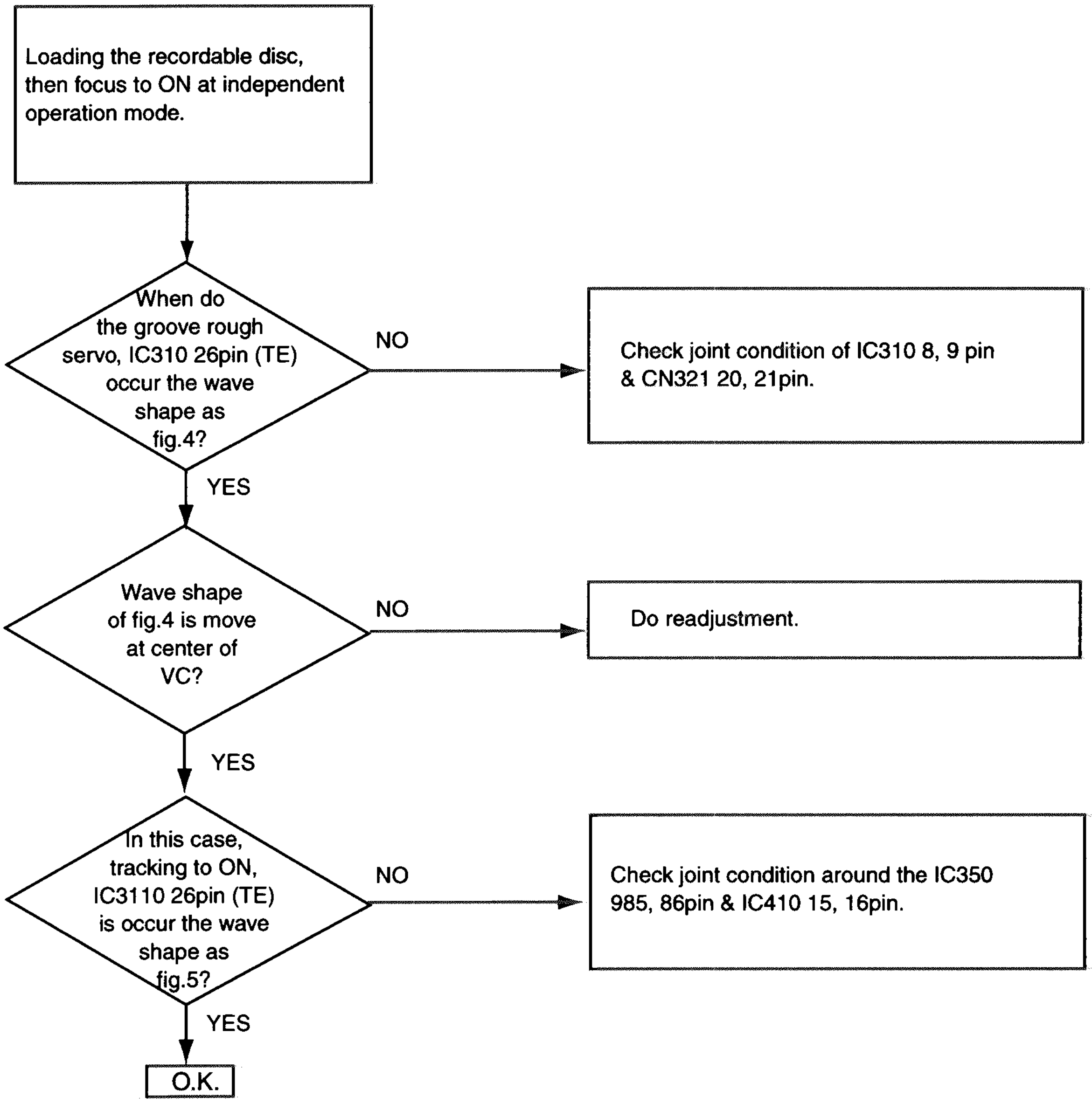

Rmove the top cover
Joint AC cord
Mechanism operation?
N
CN521 line check to loading section to EEPROM
Y
Disc loading?
N
to loading section
Y
ReadTOC UTOC?
N
Spindle motor rotation?
N
Focus is OK?
N
to focus section
Y
IC350 93, 94 & IC410 37, 40 joint and cjeck the C,R joint condition on the this line
Y
Y
Check audio circuit
The sound is normal after playback the 1st track?
N
Tracking servo is OK?
N
to trtacking section
Y
Y
to feed section
Serch is collect to each track?
N
Eye pattern is occur to TR R.F?
N
Check the pick up and joint condition to IC310
Y
Y
PIT AREA
Check IC310, IC350 RFsignal joint condition
Check IC350 58 to 61 PLL section joint condition
Check IC350 unsynmetry section 51, 52 joint condition
Recording operation is OK?
N
GROOVE AREA
Check C337, C338 solder condition & IC310 32, IC350 78 joint condition
Y
O K
Recording laser power is correct?
N
Change pick up
Y
Shape & resist of magnetic heasd is collect?
N
Change magnetic head
Y
Check EFM signal line & joint condition IC450 6,20 joint condition & output
IC450 6 output at normal operation
about 0.5ms
about 1.5ms
⑥
⑳

Chapter of Focus

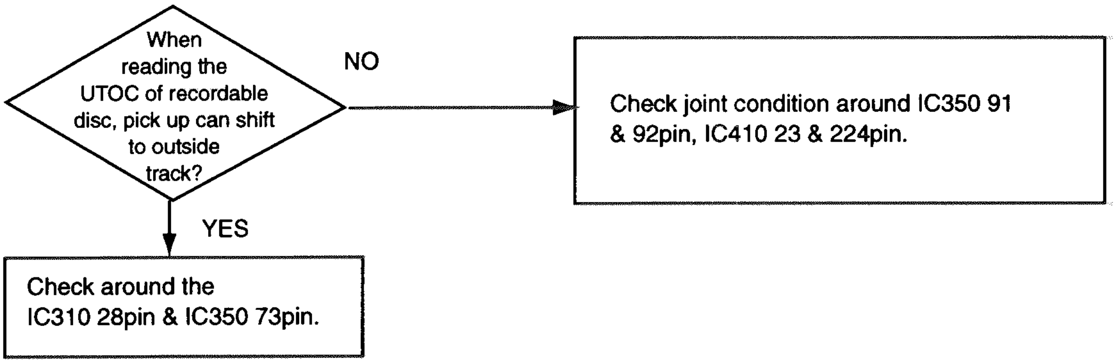
Loading operation can done without disc, when joint to the ground one of CN410 3 to 5 pin.


Set to independent operation mode.
When loading without disc then focus to ON, IC410 7 pin occur the wave shape as fig.1?
NO
Check joint condition of IC350 88,89 pin & IC400 6, 3 pin
Check joint condition of IC500 5, 9, 13 17 pin & IC350
YES
In this time, wave shape (fig.2) occur between IC410 8 and 9 pin?
NO
Check power supply of IC410 or joint condition of 17 pin
YES
Remove R326, loading disc then focus to ON, IC310 34 pin wave shape (fig.3) occur?
NO
Check laser diode to ON or joint condition of pick up
YES
Check joint condition of IC310 34 pin & IC350 65 pin.

Chapter of Tracking


Loading the recordable disc, then focus to ON at independent operation mode.
When do the groove rough servo, IC310 26pin (TE) occur the wave shape as fig.4?
NO
Check joint condition of IC310 8, 9 pin & CN321 20, 21pin.
YES
Wave shape of fig.4 is move at center of VC?
NO
Do readjustment.
YES
In this case, tracking to ON, IC3110 26pin (TE) is occur the wave shape as fig.5?
NO
Check joint condition around the IC350 985, 86pin & IC410 15, 16pin.
YES
O.K.

Chapter of Feed

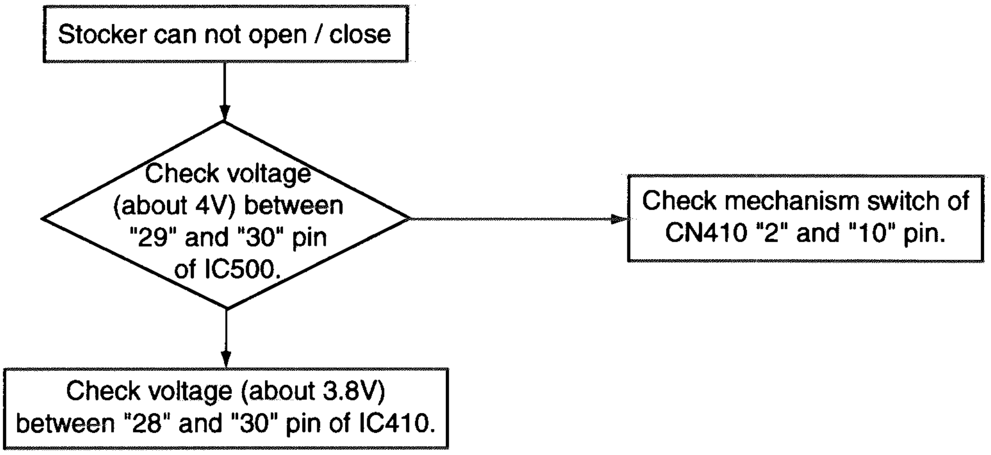

When reading the UTOC of recordable disc, pick up can shift to outside track?
NO
Check joint condition around IC350 91 & 92pin, IC410 23 & 224pin.
YES
Check around the IC310 28pin & IC350 73pin.

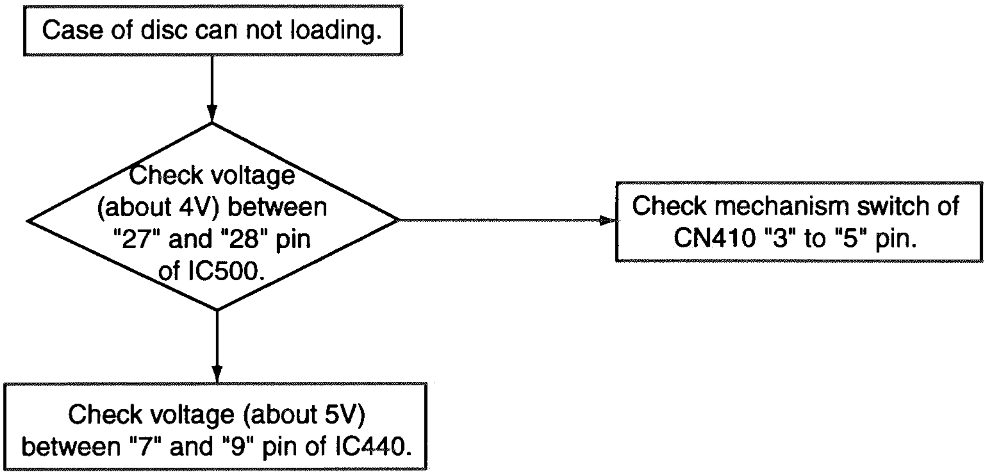
■ Chapter of EEPROM

MD CPU is access to EEPROM(IC590) then read all address data after release reset.
In this time, wrong header or impossible adjustment data (broken data), CPU is continue then communicate with EEPROM so mechanism initialize operation etc, do not done.
Communicate line (IC500 "70" to "72" and "98" pin) with EEPROM condition is continue signal output.
In this case it is need EEPROM initialize.
Case of change new EEPROM or data broken, joint "18" to "21" pin of CN521 to ground then main unit power supply to ON.
EEPROM initialize operation is complete by mechanism initialized.
After that, open the "18" to "21" pin of CN521 readjust by main unit power to ON.
If continue this condition after EEPROM initialized, it will EEPROM electrical broken.

■ Chapter of loading

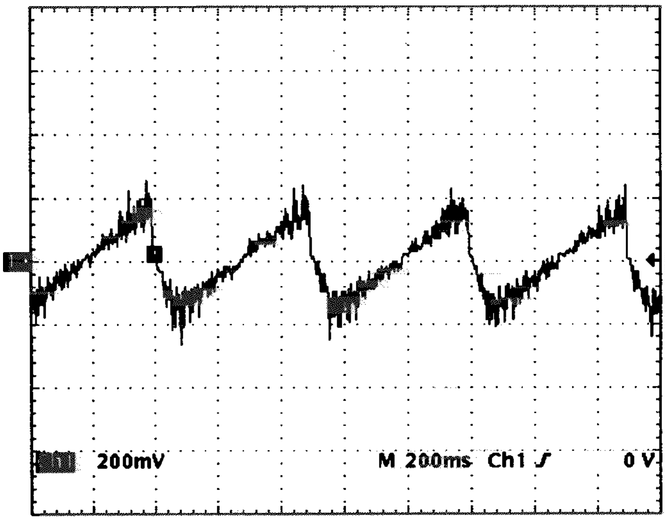
Check joint condition or soldering condition of CN403,CN410 and CN418.
Check power supply terminal of motor driver (CN410).


Stocker can not open / close
Check voltage (about 4V) between "29" and "30" pin of IC500.
Check mechanism switch of CN410 "2" and "10" pin.
Check voltage (about 3.8V) between "28" and "30" pin of IC410.

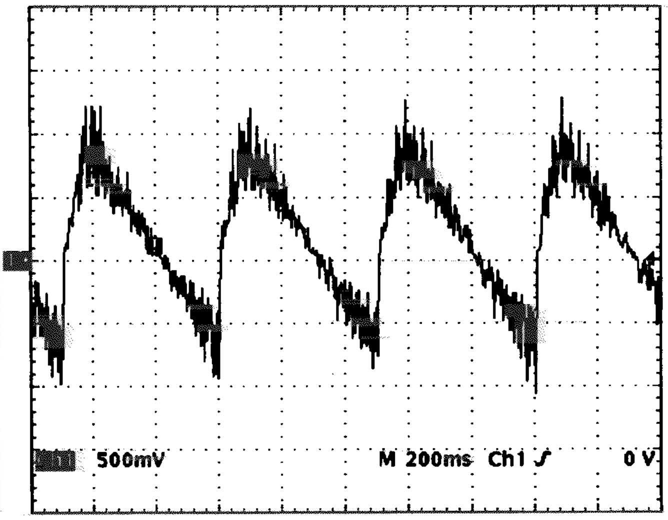

Case of disc can not loading.
Check voltage (about 4V) between "27" and "28" pin of IC500.
Check mechanism switch of CN410 "3" to "5" pin.
Check voltage (about 5V) between "7" and "9" pin of IC440.

<Case of mechanism operation to slow>
Check voltage both side of R505, it is over than 0.2V,
in this case, it will terminal short of IC500 or broken of IC500.

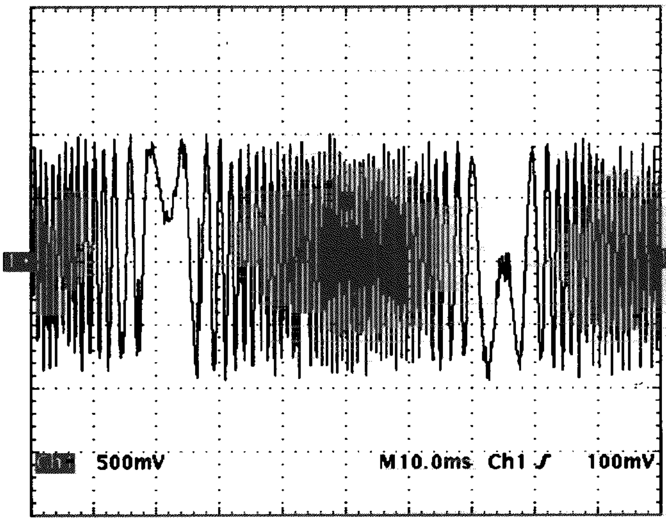
Referential wave shape at checking



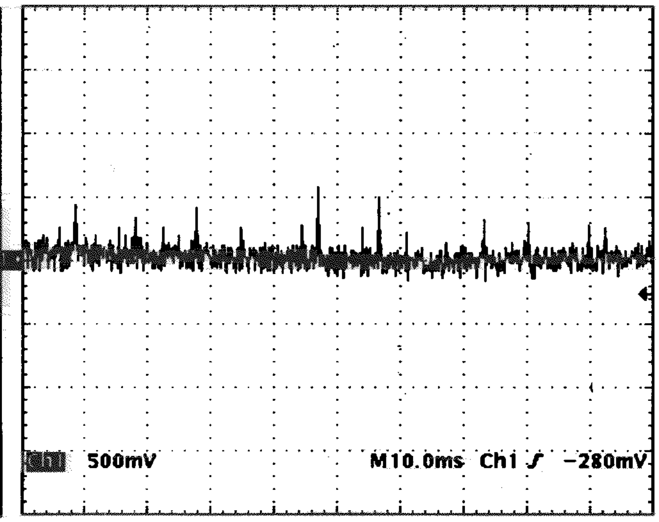
200mV/div 200ms/div Vref
(IC410 21pin joint to oscilloscope GND)



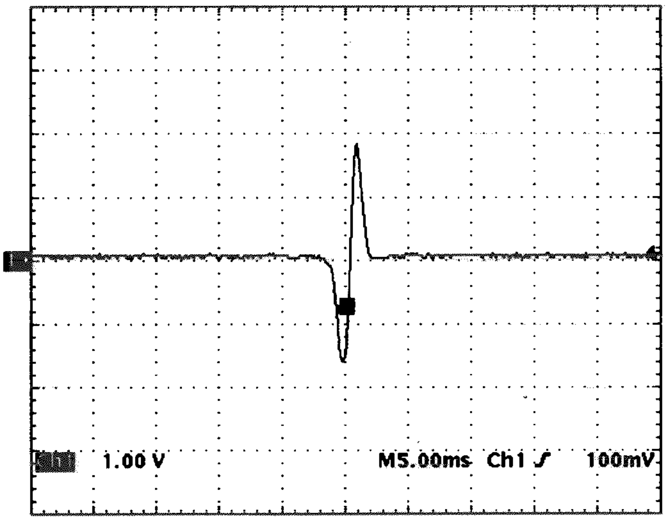
500mV/div 200ms/div Vref
(IC410 8-9pin)



500mV/div 10ms/div VC
(IC310 3pin joint to oscilloscope GND)



500mV/div 10ms/div VC
(IC310 3pin joint to oscilloscope GND)

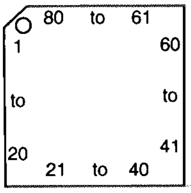


1V/div 5ms/div VC
(IC310 3pin joint to oscilloscope GND)

Description of Major ICs

■ MN101C15FAX1(IC675):SYSTEM CONTROL CPU

1. Pin layout

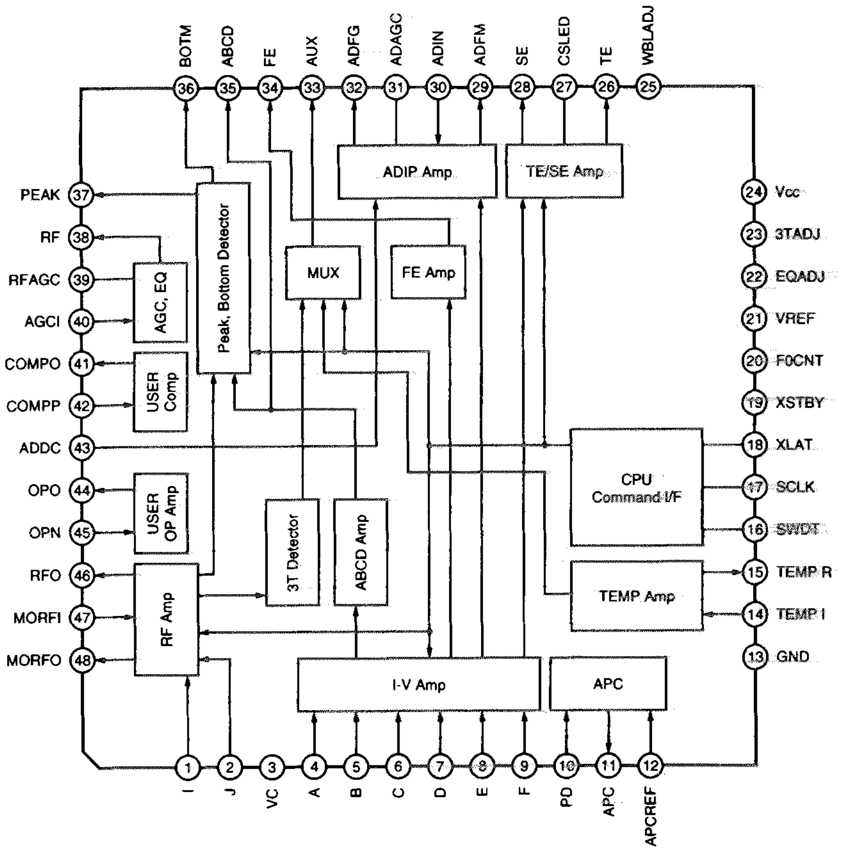


2.Pin functions

Pin No.	Symbol	I/O	Functions	Pin No.	Symbol	I/O	Functions
1	VREF-	--	Power supply (GND)	41	DSP power	O	Changer +5V control output
2	1(A/D)	I	Key 1 signal input	42	OPEN	--	Non use
3	2(A/D)	I	Key 2 signal input	43	OPEN	--	Non use
4	3(A/D)	I	Key 3 signal input	44	TUNER data I/O	I/O	Tuner data input/output
5	4(A/D)	I	Key 4 signal input	45	TUNER clock	O	Tuner clock data output
6	5(A/D)	I	Key 5 signal input	46	TUNER period	O	Tuner latch data signal output
7	6(A/D)	I	Key 6 signal input	47	TUNER $\overline{\text{MPX}}$	O	Stereo indicator output
8	GND	--	Ground	48	OPEN	O	Non use
9	GND	--	Ground	49	OPEN	O	Non use
10	VREF+	--	Reference voltage (+)	50	OPEN	O	Non use
11	VDD	--	Power supply	51	OPEN	O	Non use
12	OSC2	O	X'tal osc. signal output	52	SPK relay	O	Speaker mute signal output
13	OSC1	I	X'tal osc. signal input	53	$\overline{\text{Source mute}}$	O	Source mute signal output
14	VSS	--	Power supply (GND)	54	$\overline{\text{Line out mute}}$	O	Line out mute signal output
15	X1	I	To GND	55	$\overline{\text{MD rec mute}}$	O	MD rec mute signal output
16	X0	O	Non use	56	SOUND on/$\overline{\text{off}}$	O	Surround on/off control output
17	MMOD	I	To GND	57	Source CD/$\overline{\text{MD}}$	O	CD/MD select output
18	MD TX	I	MD control data input/output	58	DIGITAL CD/AUX	I	Digital input CD/AUX select output
19	MD RX	O	MD control data input/output	59	DCS $\overline{\text{OUT}}$	O	DCS data output
20	ST	O	Changer strobe signal output	60	DCS $\overline{\text{IN}}$	I	DCS data input
21	DATA OUT	I	Changer control data input	61	clock	O	Clock output for TD7439
22	DATA IN	O	Changer control data output	62	data	O	Data output for TD7439
23	CD clock	I	Changer data clock signal input	63	power	O	Power control output
24	CD $\overline{\text{reset}}$	O	CD reset signal output	64	OPEN	O	Non use
25	$\overline{\text{reset}}$	I	Reset signal input	65	volume jog-1	I	Volume control input
26	MD $\overline{\text{reset}}$	I	MD reset signal input	66	volume jog-2	I	Volume control input
27	OPEN	O	Non use	67	multi jog-1	I	Jog control input
28	OPEN	O	Non use	68	multi jog-2	I	Jog control input
29	RDS data in	O	RDS data signal output	69	OPEN	I	Non use
30	f out	O	Clock adjust signal output	70	OPEN	O	Non use
31	$\overline{\text{remocon in}}$	I	Remote controller signal input	71	OPEN	O	Non use
32	RDS clock	I	RDS clock data signal input	72	OPEN	O	Non use
33	RDS data start	I	RDS data start signal input	73	FTU	O	Tuner +B control output
34	CD request	I	Changer request signal input	74	OPEN	O	Non use
35	sysreq	I	Request data output from front CPU	75	OPEN	O	Non use
36	out	O	Data output to front CPU	76	BAND0	I	Chip select
37	in	I	Data input from front CPU	77	BAND1	I	Chip select
38	clock	I	Clock signal input from front CPU	78	OPEN	O	Non use
39	panereq	O	Request data output to front CPU	79	$\overline{\text{INH}}$	I	Inhibit signal input
40	$\overline{\text{reset}}$	O	Reset signal output to front CPU	80	$\overline{\text{protect}}$	I	Protect signal input

■CXA2523AR(IC310):MD RF & Servo

1.Block Diagram


BOTM
ABCD
FE
AUX
ADFG
ADAGC
ADIN
ADFM
SE
CSLED
TE
WBLADJ
36
35
34
33
32
31
30
29
28
27
26
25
ADIP Amp
TE/SE Amp
24 Vcc
23 3TADJ
22 EQADJ
21 VREF
20 F0CNT
19 XSTBY
18 XLAT
17 SCLK
16 SWDT
15 TEMP R
14 TEMP I
13 GND
PEAK 37
RF 38
RFAGC 39
AGCI 40
COMPO 41
COMPP 42
ADDC 43
OPO 44
OPN 45
RFO 46
MORFI 47
MORFO 48
Peak, Bottom Detector
AGC, EQ
MUX
FE Amp
USER Comp
USER OP Amp
CPU Command I/F
3T Detector
ABCD Amp
TEMP Amp
RF Amp
I-V Amp
APC
1
2
3
4
5
6
7
8
9
10
11
12
I
J
VC
A
B
C
D
E
F
PD
APC
APCREF

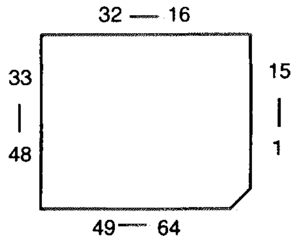
2.Pin Function

Pin No.	Symbol	I/O	Function
1	I	I	I-V converted RF signal I input.
2	J	I	I-V converted RF signal J input.
3	VC	O	Vcc/2 voltage output.
4	A	I	A current input for main beam servo signal.
5	B	I	B current input for main beam servo signal.
6	C	I	C current input for main beam servo signal.
7	D	I	D current input for main beam servo signal.
8	E	I	E current input for side beam servo signal.
9	F	I	F current input for side beam servo signal.
10	PD	I	Reflection light quantity monitor signal input.
11	APC	O	Laser APC output.
12	APCREF	I	Reference voltage input for the laser power intensity setting.
13	GND	-	Connect to GND.
14	TEMPI	I	Connects the temperature sensor.
15	TEMP R	I	Connects the temperature sensor. outputs the reference voltage.
16	SWDT	I	Data input for microcomputer serial interface.
17	SCLK	I	Shift clock input for microcomputer serial interface.
18	XLAT	I	Latch signal input for microcomputer serial interface.Latched when low.
19	XSTBY	I	Standby setting pin. Normal operation when high Standby when low.
20	F0CNT	I	Internal current source setting pin.

Pin No.	Symbol	I/O	Function
21	VREF	O	Reference voltage output.
22	EQADJ	I/O	Equalizer center frequency setting pin.
23	3TADJ	I/O	BPF3T center frequency setting pin.
24	Vcc	-	Power supply.
25	WBLADJ	I/O	BPF22 center frequency setting pin.
26	TE	O	Tracking error signal output.
27	CSLED	-	Connects the sled error signal LPF capacitor.
28	SE	O	Sled error signal output.
29	ADFM	O	ADIP FM signal output.
30	ADIN	I	ADIP signal comparator input.
31	ADAGC	-	Connects the ADIPAGC capacitor.
32	ADFG	O	ADIP2 binary value signal output.
33	AUX	O	13 output / temperature signal output. Switched with serial commands.
34	FE	O	Focus error signal output.
35	ABCD	O	Reflection light quantity signal output for the main beam servo detector.
36	BOTM	O	RF/ABCD bottom hold signal output.
37	PEAK	O	Peak hold signal output for the RF/ABCD signals.
38	RF	O	RF equalizer output.
39	RFAGC	-	Connects the RFAGC capacitor.
40	AGCI	I	RFAGC input.
41	COMPO	O	User comparator output.
42	COMPP	I	User comparator non-inverted input.
43	ADDC	I/O	Connects the capacitor for ADIP amplifier feedback circuit.
44	OPO	O	User operational amplifier output.
45	OPN	I	User operational amplifier inverted input.
46	RFO	O	RF amplifier output. Eye pattern checkpoint.
47	MORFI	I	Input of the groove RF signal with AC coupling.
48	MORFO	O	Groove RF signal output.

■ MN101C10A (IC701) : FRONT CPU

1.Pin Layout

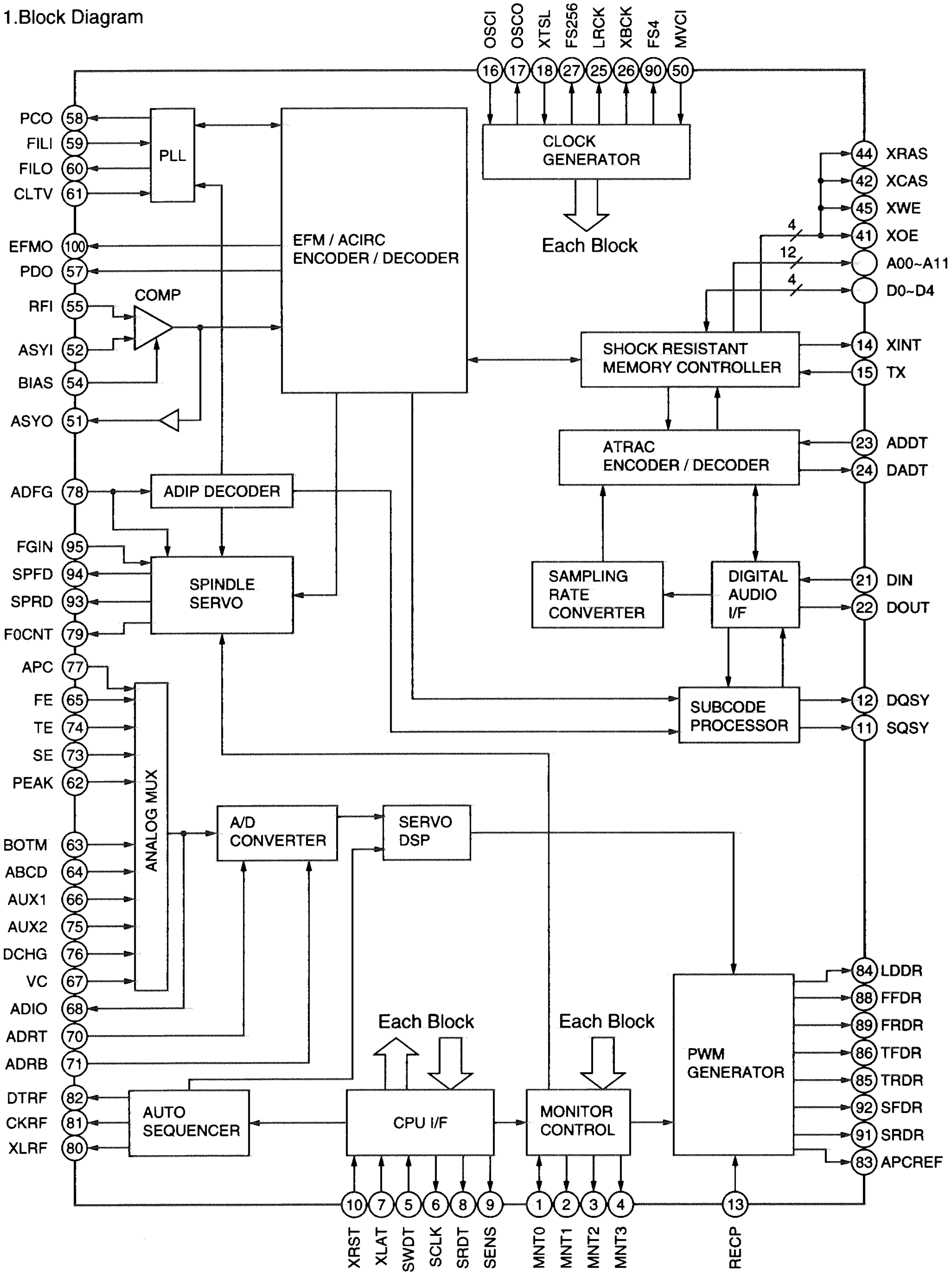


2.Pin Functions

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	AN3/PA3	I	Joint to GND	33	RE	O	Data buss output of LCD driver
2	AN4/PA4	I	Joint to GND	34	CS1	O	Chip select signal output to LCD driver
3	AN5/PA5	I	Joint to GND	35	CD1O	O	CD1 orange LED control
4	AN6/PA6	I	Joint to GND	36	CD1G	O	CD1 green LED control
5	AN7/PA7	I	Joint to GND	37	AO	O	Data select signal output to LCD
6	VREF +	--	Reference Voltage	38	OPEN	--	Non use
7	VDD	--	Power Supply	39	OPEN	--	Non use
8	OSC2	O	X'tal OSC output terminal	40	OPEN	--	Non use
9	OSC1	I	X'tal OSC input terminal	41	OPEN	--	Non use
10	VSS	--	Joint to GND	42	OPEN	--	Non use
11	X1	I	Join tot GND	43	OPEN	--	Non use
12	X0	O	Non use	44	OPEN	--	Non use
13	MMOD	I	Joint to GND	45	LAMP.ON	O	Lamp ON signal output
14	OUT	O	Data output to system CPU	46	LAMP.DIMMER	O	Lamp dimmer signal output
15	IN	I	Data input from system CPU	47	BLLEDDIMMER	O	J06LED dimmer signal output
16	CLOCK	O	Clock signal output to system CPU	48	OPEN	--	Non use
17	SYAREQ	O	Request data output to system CPU	49	CD2 ORANGE	O	CD2 orange LED control
18	STANDBY	O	Standby LED control	50	CD2 GREEN	O	CD2 green LED control
19	SOUND	O	Sound LED control	51	CD3 ORANGE	O	CD3 orange LED control
20	OPEN	O	Non use	52	CD3 GREEN	O	CD3 green LED control
21	RESET	I	Reset signal input from system CPU	53	D7	O	Input/Output data buss
22	BASS	O	BASS LED control	54	D6	O	Input/Output data buss
23	MD IN	O	MD IN LED control	55	D5	O	Input/Output data buss
24	MD REC	O	MD REC LED control	56	D4	O	Input/Output data buss
25	DIGITAL	O	DIGITAL LED control	57	D3	O	Input/Output data buss
26	JOG	O	JOG LED control	58	D2	O	Input/Output data buss
27	PANEREQ	I	Request data input from system CPU	59	D1	O	Input/Output data buss
28	P21/IRQ1	I	Join tot GND	60	D0	O	Input/Output data buss
29	P22/IRQ2	I	Joint to GND	61	VREF-	--	Reference voltage (-)
30	P23/IRQ3	I	Joint to GND	62	LEVEL-R	I	R ch level signal input
31	P24/IRQ4	I	Joint to GND	63	LEVEL-L	I	L ch level signal input
32	WE	O	Latch signal output of data buss	64		--	Joint to GND

CXD2652AR(IC350) : Digital Servo Processor

1.Block Diagram


OSCI 16
OSCO 17
XTSL 18
FS256 27
LRCK 25
XBCK 26
FS4 90
MVCI 50
CLOCK GENERATOR
Each Block
PCO 58
FILI 59
FILO 60
CLTV 61
PLL
EFMO 100
PDO 57
RFI 55
ASYI 52
BIAS 54
ASYO 51
COMP
EFM / ACIRC ENCODER / DECODER
44 XRAS
42 XCAS
45 XWE
41 XOE
A00~A11
D0~D4
4
12
4
SHOCK RESISTANT MEMORY CONTROLLER
14 XINT
15 TX
ATRAC ENCODER / DECODER
23 ADDT
24 DADT
ADFG 78
ADIP DECODER
FGIN 95
SPFD 94
SPRD 93
F0CNT 79
SPINDLE SERVO
SAMPLING RATE CONVERTER
DIGITAL AUDIO I/F
21 DIN
22 DOUT
SUBCODE PROCESSOR
12 DQSY
11 SQSY
APC 77
FE 65
TE 74
SE 73
PEAK 62
BOTM 63
ABCD 64
AUX1 66
AUX2 75
DCHG 76
VC 67
ADIO 68
ADRT 70
ADRB 71
ANALOG MUX
A/D CONVERTER
SERVO DSP
Each Block
Each Block
PWM GENERATOR
84 LDDR
88 FFDR
89 FRDR
86 TFDR
85 TRDR
92 SFDR
91 SRDR
83 APCREF
DTRF 82
CKRF 81
XLRF 80
AUTO SEQUENCER
CPU I/F
MONITOR CONTROL
10 XRST
7 XLAT
5 SWDT
6 SCLK
8 SRDT
9 SENS
1 MNT0
2 MNT1
3 MNT2
4 MNT3
13 RECP

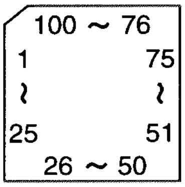
2.Pin Function

Pin No.	Symbol	I/O	Function
1	MNT0	I/O	Monitor output.
2	MNT1	O	Monitor output.
3	MNT2	O	Monitor output.
4	MNT3	O	Monitor output.
5	SWDT	I	Data input for microcomputer serial interface.
6	SCLK	I	Shift clock input for microcomputer serial interface
7	XLAT	I	Latch input for microcomputer serial interface.Latched at the falling edge.
8	SRDT	O	Data output for microcomputer serial interface.
9	SENS	O	Output the internal status corresponding to the microcomputer serial interface address.
10	XRST	I	Reset input. Low:reset
11	SQSY	O	Disc sub code Q sync/ADIP sync output.
12	DQSY	O	Sub code Q sync output in U-bit CD or MD format when the Digital in source is CD or MD
13	RECP	I	Laser power switching input. High:recording power Low:playback power.
14	XINT	O	Interruption request output. Low:when the interruption status occurs.
15	TX	I	Enable signal input for recording data output. High:enabled.
16	OSCI	I	Crystal oscillation circuit input.
17	OSCO	O	Crystal oscillation circuit output. (inverted output of the OSCI pin)
18	XTSL	I	OSCI input frequency switching. High:512Fs(22.5792MHz) Low:1024Fs(45.1584MHz)
19	DVDD	-	Digital power supply.
20	DVss	-	Digital ground.
21	DIN	I	Digital audio interface signal input.
22	DOUT	O	Digital audio interface signal output.
23	ADDT	I	Analog recording input (Connect to the external A/D converter output).
24	DADT	O	REC monitor output/decoded audio data output.
25	LRCK	O	LRCK(44.1kHz) output to the external audio block.
26	XBCK	O	Bit clock(2.8224MHz) output to the external audio block.
27	FS256	O	256Fs output.(11.2896MHz)
28	DVdd	-	Digital power supply.
29	A03	O	External DRAM address output.
30	A02	O	External DRAM address output.
31	A01	O	External DRAM address output.
32	A00	O	External DRAM address output.
33	NC	-	Non connect.
34	A04	O	External DRAM address output.
35	A05	O	External DRAM address output.
36	A06	O	External DRAM address output.
37	A07	O	External DRAM address output.
38	A08	O	External DRAM address output.
39		-	Non connect.
40	DVss	-	Digital ground.
41	XOE	O	External DRAM output enable.
42	XCAS	O	External DRAM $\overline{\text{CAS}}$ output.
43	A09	O	External DRAM address output.
44	XRAS	O	External DRAM $\overline{\text{RAS}}$ output.
45	XWE	O	External DRAM write enable.
46	D1	I/O	External DRAM data bus.
47	D0	I/O	External DRAM data bus.
48	D2	I/O	External DRAM data bus.
49	D3	I/O	External DRAM data bus.
50	MVCI	I	External VCO (784Fs) clock input.

Pin No.	Symbol	I/O	Function
51	ASYO	O	Playback EFM full-swing output. (Low:Vss High:Vdd)
52	ASYI	I	Playback EFM comparator slice voltage input.
53	AVdd	-	Analog power supply.
54	BIAS	I	Playback EFM comparator bias current input.
55	RFI	I	Playback EFM RF signal input.
56	AVss	-	Analog ground.
57	PDO	O	Phase comparison output for analog PLL of EFM decoder.
58	PCO	O	Phase comparison output for master PLL of playback digital PLL and recoding EFM PLL.
59	FILI	I	Filter input for master PLL of playback digital PLL and recording EFM PLL.
60	FILO	O	Filter output for master PLL of playback digital PLL and recording EFM PLL.
61	CLTV	I	Internal VCO control voltage input for master PLL of playback digital PLL and recording EFM PLL.
62	PEAK	I	Peak hold signal input for quantity of light.
63	BOTM	I	Bottom hold signal input for quantity of light.
64	ABCD	I	Signal input for quantity of light.
65	FE	I	Focus error signal input.
66	AUX1	I	Auxiliary input1.
67	VC	I	Center voltage input.
68	ADIO	O	Monitor output for A/D converter input signal.
69	AVdd	-	Analog power supply.
70	ADRT	I	Voltage input for the upper limit of the A/D converter operating range.
71	ADRB	I	Voltage input for the lower limit of the A/D converter operating range.
72	AVss	-	Analog ground.
73	SE	I	Sled error signal input.
74	TE	I	Tracking error signal input.
75	AUX2	I	Auxiliary input 2.
76	DCHG	I	Connect to the low-impedance power supply.
77	TEST4	I	Error signal input for laser digital APC.
78	ADFG	I	ADIP binary FM signal (22.05±1kHz) input.
79	F0CNT	O	CXA2523 current source setting output.
80	XLRF	O	CXA2523 control latch output. Latched at the falling edge.
81	CKRF	O	CXA2523 control shift clock output.
82	DTRF	O	CXA2523 control data output.
83	APCREF	O	Reference PWM output for laser APC.
84	TEST0	-	Non connect
85	TRDR	O	Tracking servo drive PWM output.(-)
86	TFDR	O	Tracking servo drive PWM output.(+)
87	DVdd	-	Digital power supply.
88	FFDR	O	Focus servo drive PWM output.(+)
89	FRDR	O	Focus servo drive PWM output.(-)
90	FS4	-	Non connect.
91	SRDR	O	Sled servo drive PWM output.(-)
92	SFDR	O	Sled servo drive PWM output.(+)
93	SPRD	O	Spindle servo drive output.(PWM(-) or polarity)
94	SPFD	O	Spindle servo drive output.(PWM(+) or PWM absolute value)
95	FGIN	I	Spindle CAV servo FG input.
96	TEST1	I	Test pin.Connect to GND.
97	TEST2	I	Test pin.Connect to GND.
98	TEST3	I	Test pin.Connect to GND.
99	DVss	-	Digital ground.
100	EFMO	O	Low when playback:EFM (encoded data) output when recording.

■HD6433045SV09F(IC500) : MD Control Micon

1.Terminal Layout



2.Pin Function

PIN No.	Symbol	I/O	Function
1	VCC	-	Power supply.
2	DIUNL	-	"H" is output at "Digital IN unlock".
3	$\overline{\text{MODON}}$	O	L:Harmonic weight ON, at playback.
4	MODCHG	O	L:PLAY H:REC (Harmonic weight power).
5	TX	O	Data output enable signal when recording.
6	RECP	O	Connect to RECP terminal for IC350.
7	XTSL	O	Connect to XTSL terminal for IC350.
8	XRST	O	Connect to XRDT terminal for IC350.
9	XLAT	O	Connect to XLAT terminal for IC350.
10	RESO	-	When the flash memory is written it is the voltage supply of +12V terminal.
11	GND	-	Connect to GND.
12	STATUS	O	Status signal output to IC901.
13	SWDT	O	Serial bus light output terminal to IC350.
14	COMMAND	I	command data input from IC901.
15	SRDT	I	Serial bus lead input terminal to IC350.
16	COMCLK	O	Clock signal to IC901.
17	SCLK	I	Serial bus clock output terminal to IC350.
18	STSRDY	O	Ready signal from IC901.
19	MEMUTE	O	Pick up drive mute terminal.
20	MHON	O	Magnetic head drive control terminal L:At recording.
21	P.ON	O	Power ON/OFF control terminal H:Power ON.
22	GND	-	Connect to GND.
23	PWAD	O	A/D converter ON/OFF control terminal for audio, L:Power down.
24	PWDA	O	D/A converter ON/OFF control terminal for audio, L:Power down.
25	EMPHE	O	Playback signal emphasis ON/OFF signal L:ON.
26	NC	-	Non connect.
27	EJECT	O	Motor driver control signal output. H:EJECT L:LOAD
28	LOAD	O	Motor driver control signal output. H:LOAD L:EJECT
29-34		-	Non connect.
35	VCC	-	Power supply.
36	SSTOP	I	Limit switch ON/OFF detect signal terminal for surroundings detection the in disc.
37	MREF	I	Disc hole detect switch (Reflectivity detection input).
38	MPROT	I	Disc hole detect switch (Recording protection detection input).
39-43		-	Non connect.

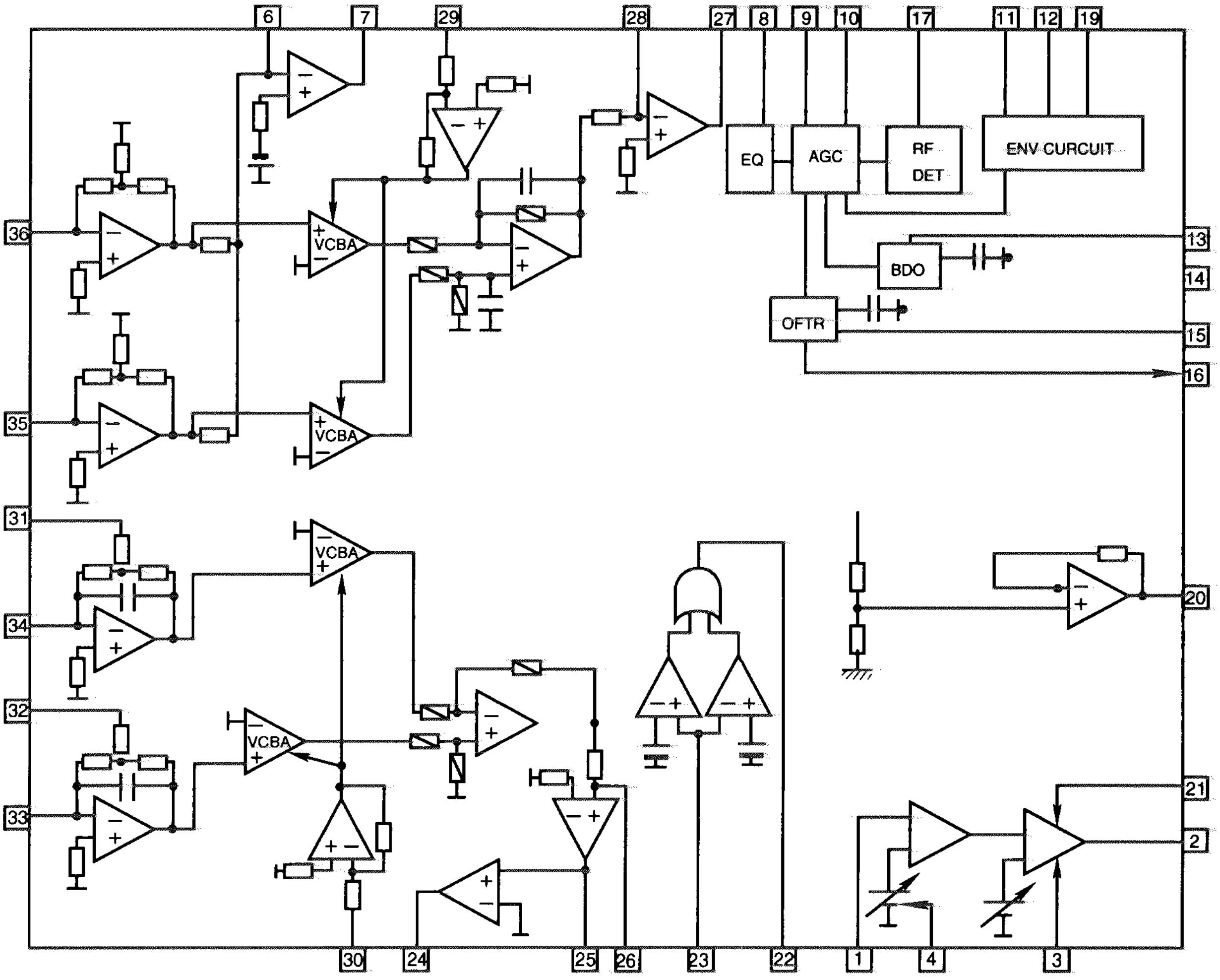
PIN No.	Symbol	I/O	Function
44	GND	-	Connect to GND.
45	PLAY SW	I	Play switch detection.
46	LOAD SW	I	Load switch detection.
47-52		-	Non connect.
53	SEL0	I	ID when controlling simultaneously (pull up MOS) At normal use:H.
54	SEL1	I	ID when controlling simultaneously (pull up MOS) At normal use:H.
55	SEL2	I	ID when controlling simultaneously (pull up MOS) At normal use:H.
56	SEL3	I	ID when controlling simultaneously (pull up MOS) At normal use:H.
57	GND	-	Connect to GND.
58	MMONI0	O	Parallel operation monitor terminal.
59	MMONI1	O	Parallel operation monitor terminal.
60	MMONI2	O	Parallel operation monitor terminal.
61	0	O	Parallel operation monitor terminal.
62	STBY	-	Connect to VCC.
63	RESET	I	Reset signal input terminal.
64	NMI	I	Connect to VCC.
65	GND	-	Connect to GND.
66	EXTAL	-	Oscillation terminal (8MHz).
67	XTAL	-	Oscillation terminal (8MHz).
68	VCC	-	Power supply.
69	MMONI3	O	Parallel operation monitor terminal.
70	SCL	O	EEPROM Serial clock output to IC590,IC591.
71	DI	O	EEPROM Data output to IC590,IC591.
72	CS	O	EEPROM Chip select terminal output to IC590,IC591.
73	MD0	-	Connect to VCC.
74	MD1	-	Connect to VCC.
75	MD2	-	Connect to VCC.
76	AVCC	-	Connect to VCC.
77	Vref	-	Connect to VCC.
78	MODESE	I	Operation mode select terminal for Micon H:Time usually.
79	SET1	I	External communication method selection terminal, H:UART L:four line type.
80	SET2	I	DOUT selection terminal, H:DIN output L:FS convert output.
81	SET3	I	Digital output selection terminal H:OFF L:ON.
82	MT0	I	Monitor output selection terminal of IC350.
83	MT1	I	Monitor output selection terminal of IC350.
84	MT2	I	Monitor output selection terminal of IC350.
85	MT3	I	Monitor output selection terminal of IC350.
86	GND	-	Connect to GND.
87	XINT	I	Interruption status input terminal of IC350.
88	DQSY	I	Digital in of U-bit, Sub code Q sink input terminal.
89	SQSY	I	Sub code Qsink input terminal.
90	NC	-	Non connect.
91	NC	-	Non connect.
92	GND	-	Connect to GND.
93	MNT0	I	Connect to MNT0 terminal of IC350.
94	MNT1	I	Connect to MNT1 terminal of IC350.
95	MNT2	I	Connect to MNT2 terminal of IC350.
96	MNT3	I	Connect to MNT3 terminal of IC350.
97	SENS	I	Status signal input terminal from IC350.
98	DO	I	EEPROM Serial data input terminal from IC590,IC591.
99	X.SEL	I	Crystal oscillation frequency selection terminal, L:22.5792MHz H:45.1584MHz.
100	VCC	-	Power supply.

■ AN8806SB(IC601):RF&Servo AMP

1.Terminal Layout

PD	1	36	PDAC
LD	2	35	PDBD
LDON	3	34	PDF
LDP	4	33	PDE
VCC	5	32	PDER
RF-	6	31	PDFR
RF OUT	7	30	TBAL
RF IN	8	29	FBAL
C.AGC	9	28	EF-
ARF	10	27	EF OUT
C.ENV	11	26	TE-
C.EA	12	25	TE OUT
CS BDO	13	24	CROSS
BDO	14	23	TE BPF
CS BRT	15	22	VDET
OFTR	16	21	LD OFF
/NRFDET	17	20	VREF
GND	18	19	ENV

2.Block Diagram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VCBA
EQ
AGC
RF DET
ENV CURCUIT
BDO
OFTR
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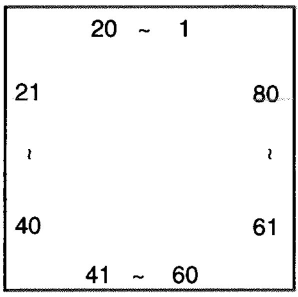
3

3. Functions

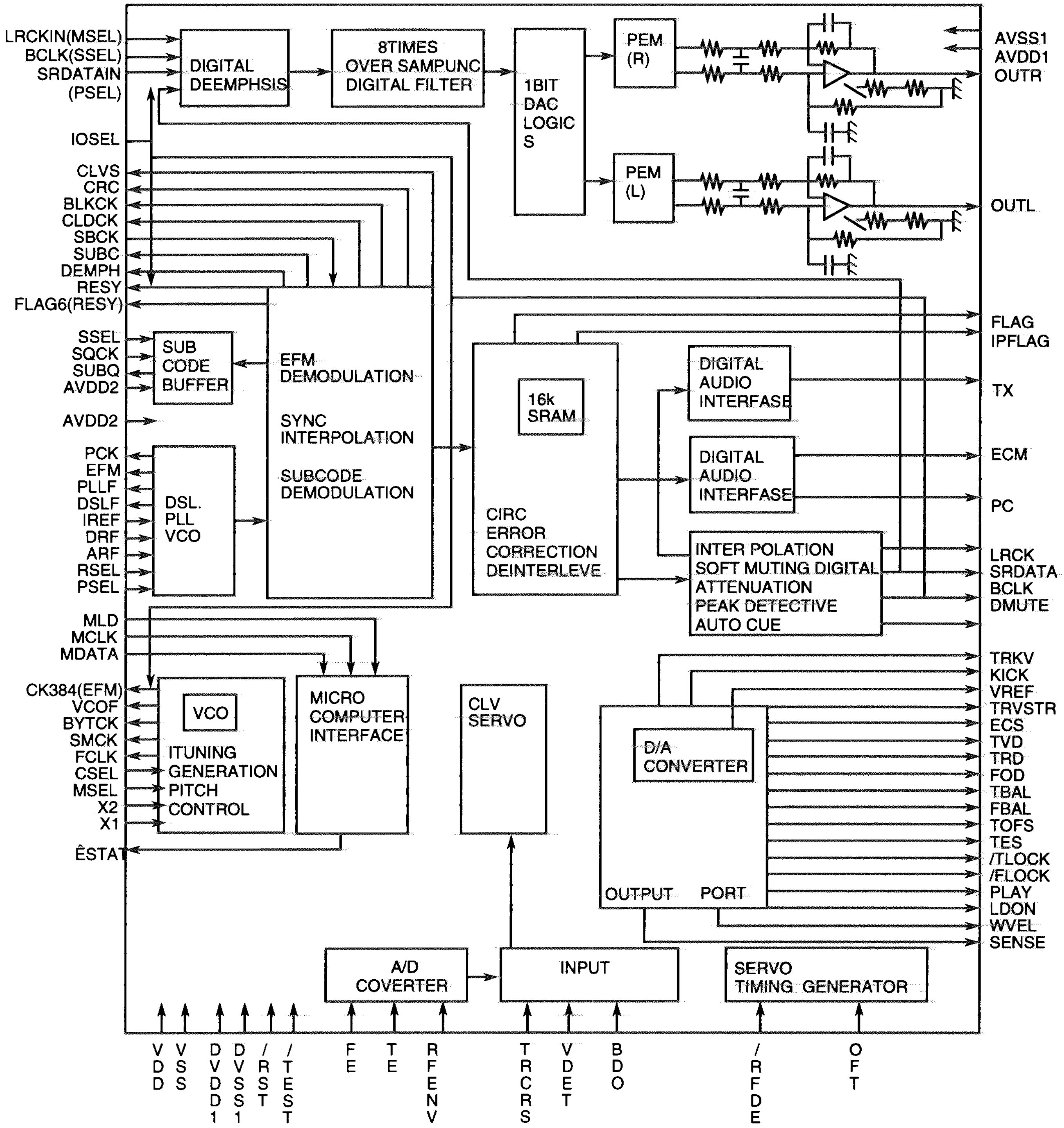
Pin No.	Symbol	I/O	Functions and operations
1	PD	I	APC amp input terminal
2	LD	O	APC amp output terminal
3	LD ON	I	APC ON/OFF control terminal
4	LDP	--	Connect to ground
5	VCC	--	Power supply
6	RF-	I	Inverse input pin for RF amp
7	RF OUT	O	RFamp output
8	RF IN	I	RF input
9	C.AGC	I/O	Connecting pin of AGC loop filter
10	ARF	O	RF output
11	C.ENV	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
12	C.EA	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
13	CS BDO	I/O	A capacitor is connected to detect the lower envelope of RF signal
14	BDO	O	BDO output pin
15	CS BRT	I/O	A capacitor is connected to detect the lower envelope of RF signal
16	OFTR	O	Of-track status signal output
17	/NRFDET	O	RF detection signal output
18	GND	--	Ground
19	ENV	O	Envelope output
20	VREF	O	Reference voltage output
21	LD OFF	--	Connect to ground
22	VDET	O	Vibration detection signal output
23	TE BPF	I	Input pin of tracking error through BPF
24	CROSS	O	Tracking error cross output
25	TE OUT	O	Tracking error signal output
26	TE-	I	Inverse input pin for tracking error amp
27	FE OUT	O	Output pin of focus error
28	FE-	I	Inverse input pin for focus error amp
29	FBAL	I	Focus balance control
30	TBAL	I	Tracking balance control
31	PDFR	I/O	F I-V amp gain control
32	PDER	I/O	E I-V amp gain control
33	PDF	I	I-V amp input
34	PDE	I	I-V amp input
35	PD BD	I	I-V amp input
36	PD AC	I	I-V amp input

■ MN35510(IC651):DIGITAL SERVO&DIGITAL SIGNAL PROCESSER

1. Terminal Layout


20 ~ 1
21
80
40
61
41 ~ 60

2.Block Diagram

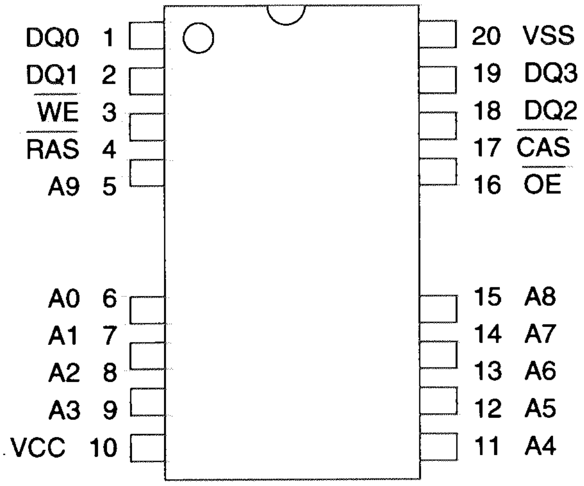

LRCKIN(MSEL)
BCLK(SSEL)
SRDATAIN
(PSEL)
IOSEL
CLVS
CRC
BLKCK
CLDCK
SBCK
SUBC
DEMPH
RESY
FLAG6(RESY)
SSEL
SQCK
SUBQ
AVDD2
AVDD2
PCK
EFM
PLLF
DSLF
IREF
DRF
ARF
RSEL
PSEL
MLD
MCLK
MDATA
CK384(EFM)
VCOF
BYTCK
SMCK
FCLK
CSEL
MSEL
X2
X1
ÊSTAT
DIGITAL DEEMPHSIS
8TIMES OVER SAMPUNC DIGITAL FILTER
1BIT DAC LOGIC S
PEM (R)
PEM (L)
SUB CODE BUFFER
EFM DEMODULATION
SYNC INTERPOLATION
SUBCODE DEMODULATION
DSL. PLL VCO
16k SRAM
CIRC ERROR CORRECTION DEINTERLEVE
DIGITAL AUDIO INTERFASE
DIGITAL AUDIO INTERFASE
INTER POLATION SOFT MUTING DIGITAL ATTENUATION PEAK DETECTIVE AUTO CUE
VCO
ITUNING GENERATION PITCH CONTROL
MICRO COMPUTER INTERFACE
CLV SERVO
D/A CONVERTER
OUTPUT PORT
A/D COVERTER
INPUT
SERVO TIMING GENERATOR
AVSS1
AVDD1
OUTR
OUTL
FLAG
IPFLAG
TX
ECM
PC
LRCK
SRDATA
BCLK
DMUTE
TRKV
KICK
VREF
TRVSTR
ECS
TVD
TRD
FOD
TBAL
FBAL
TOFS
TES
/TLOCK
/FLOCK
PLAY
LDON
WVEL
SENSE
VDD
VSS
DVDD1
DVSS1
/RST
/TEST
FE
TE
RFENV
TRCRS
VDET
BDO
/RFDE
OFT

3. Description

Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Not used	41	TES	O	Tracking error shunt signal output(H:shunt)
2	LRCK	O	Not used	42	PLAY	–	Not used
3	SRDATA	O	Not used	43	WVEL	–	Not used
4	DVDD1	–	Power supply (Digital)	44	ARF	I	RF signal input
5	DVSS1	–	Connected to GND	45	IREF	I	Reference current input pin
6	TX	O	Digital audio interface output	46	DRF	I	Bias pin for DSL
7	MCLK	I	μ com command clock signal input (Data is latched at signal's rising point)	47	DSLF	I/O	Loop filter pin for DSL
8	MDATA	I	μ com command data input	48	PLLF	I/O	Loop filter pin for PLL
9	MLD	I	μ com command load signal input	49	VCOF	–	Not used
10	SENSE	O	Sence signal output	50	AVDD2	–	Power supply(Analog)
11	FLOCK	O	Focus lock signal output Active :Low	51	AVSS2	–	Connected to GND(Analog)
12	TLOCK	O	Tracking lock signal output Active :Low	52	EFM	–	Not used
13	BLKCK	O	sub-code·block·clock signal output	53	PCK	–	Not used
14	SQCK	I	Outside clock for sub-code Q resister input	54	PDO	–	Not used
15	SUBQ	O	Sub-code Q -code output	55	SUBC	–	Not used
16	DMUTE	–	Connected to GND	56	SBCK	–	Not used
17	STATUS	O	Status signal (CRC,CUE,CLVS,TTSTOP,ECLV,SQOK)	57	VSS	–	Connected to GND(for X'tal oscillation circuit)
18	RST	I	Reset signal input (L:Reset)	58	XI	I	Input of 16.9344MHz X'tal oscillation circuit
19	SMCK	–	Not used	59	X2	O	Output of X'tal oscillation circuit
20	PMCK	–	Not used	60	VDD	–	Power supply(for X'tal cscillation circuit)
21	TRV	O	Traverse enforced output	61	BYTCK	–	Not used
22	TVD	O	Traverse drive output	62	CLDCK	–	Not used
23	PC	–	Not used	63	FLAG	–	Not used
24	ECM	O	Spindle motor drive signal (Enforced mode output) 3-State	64	IPPLAG	–	Not used
25	ECS	O	Spindle motor drive signal (Servo error signal output)	65	FLAG	–	Not used
26	KICK	O	Kick pulse output	66	CLVS	–	Not used
27	TRD	O	Tracking drive output	67	CRC	–	Not used
28	FOD	O	Focus drive output	68	DEMPH		Not used
29	VREF	I	Reference voltage input pin for D/A output block (TVD,FOD,FBA,TBAL)	69	RESY	–	Not used
30	FBAL	O	Focus Balance adjust signal output	70	IOSEL	–	pull up
31	TBAL	O	Tracking Balance adjust signal output	71	TEST	–	pull up
32	FE	I	Focus error signal input(Analog input)	72	AVDD1	–	Power supply(Digital)
33	TE	I	Tracking error signal input(Analog input)	73	OUT L	O	Lch audio output
34	RF ENV	I	RF envelope signal input(Analog input)	74	AVSS1	–	Connected to GND
35	VDET	I	Vibration detect signal input(H:detect)	75	OUT R	O	Rch audio output
36	OFT	I	Off track signal input(H:off track)	76	RSEL	–	pull up
37	TRCRS	I	Track cross signal input	77	CSEL	–	Connected to GND
38	RFDET	I	RF detect signal input(L:detect)	78	PSEL	–	Connected to GND
39	BDO	I	BDO input pin(L:detect)	79	MSEL	–	Connected to GND
40	LDON	O	Laser ON signal output(H:on)	80	SSEL	–	Pull up

■ MN41V4400TT-08 (IC390) : D RAM

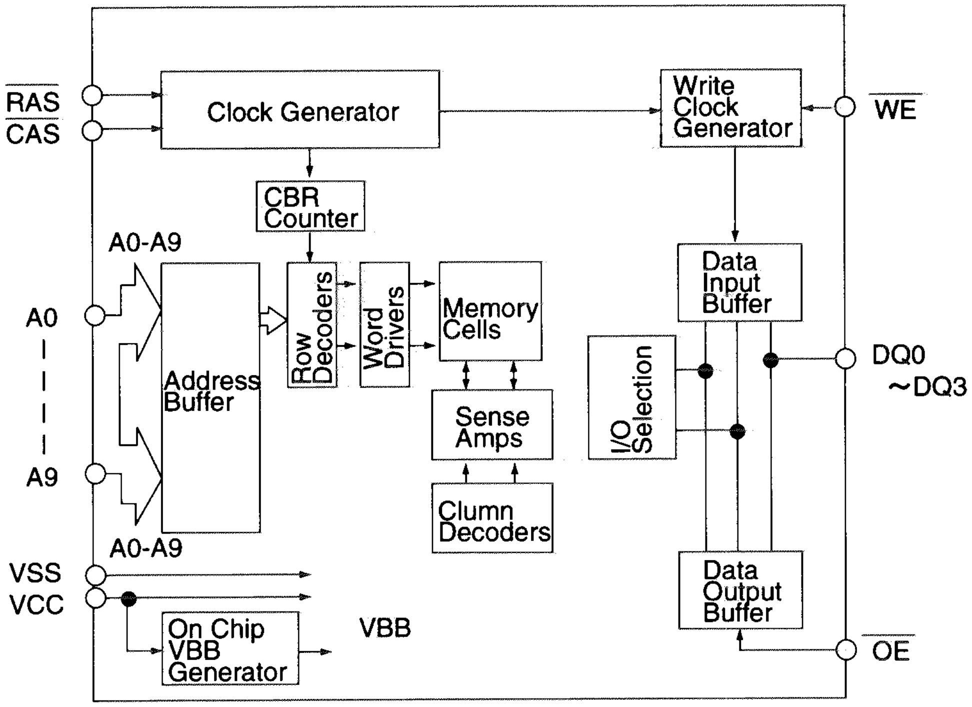
1.Pin Layout


DQ0 1
DQ1 2
$\overline{\text{WE}}$ 3
$\overline{\text{RAS}}$ 4
A9 5
A0 6
A1 7
A2 8
A3 9
VCC 10
20 VSS
19 DQ3
18 DQ2
17 $\overline{\text{CAS}}$
16 $\overline{\text{OE}}$
15 A8
14 A7
13 A6
12 A5
11 A4

2.Pin Functions

Symbol	Functions
A0-A9	Address Input
$\overline{\text{RAS}}$	Low Address strove
$\overline{\text{CAS}}$	Column Address Strove
$\overline{\text{WE}}$	Write enable Input
$\overline{\text{OE}}$	Output Enable Input
DQ0-DQ3	Data IN OUTPUT
VCC	Power Supply (+3.3V)
VSS	Power Supply (0V)
NC	Non Connect

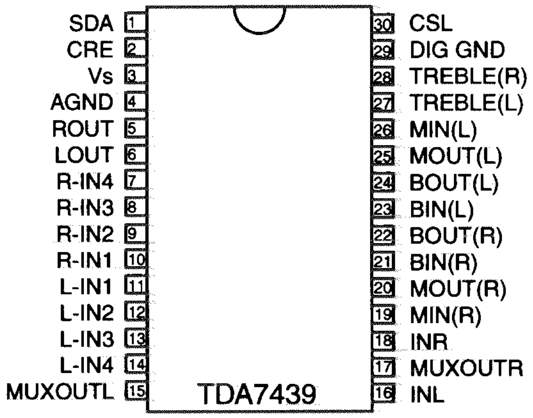
3.Block Diagram

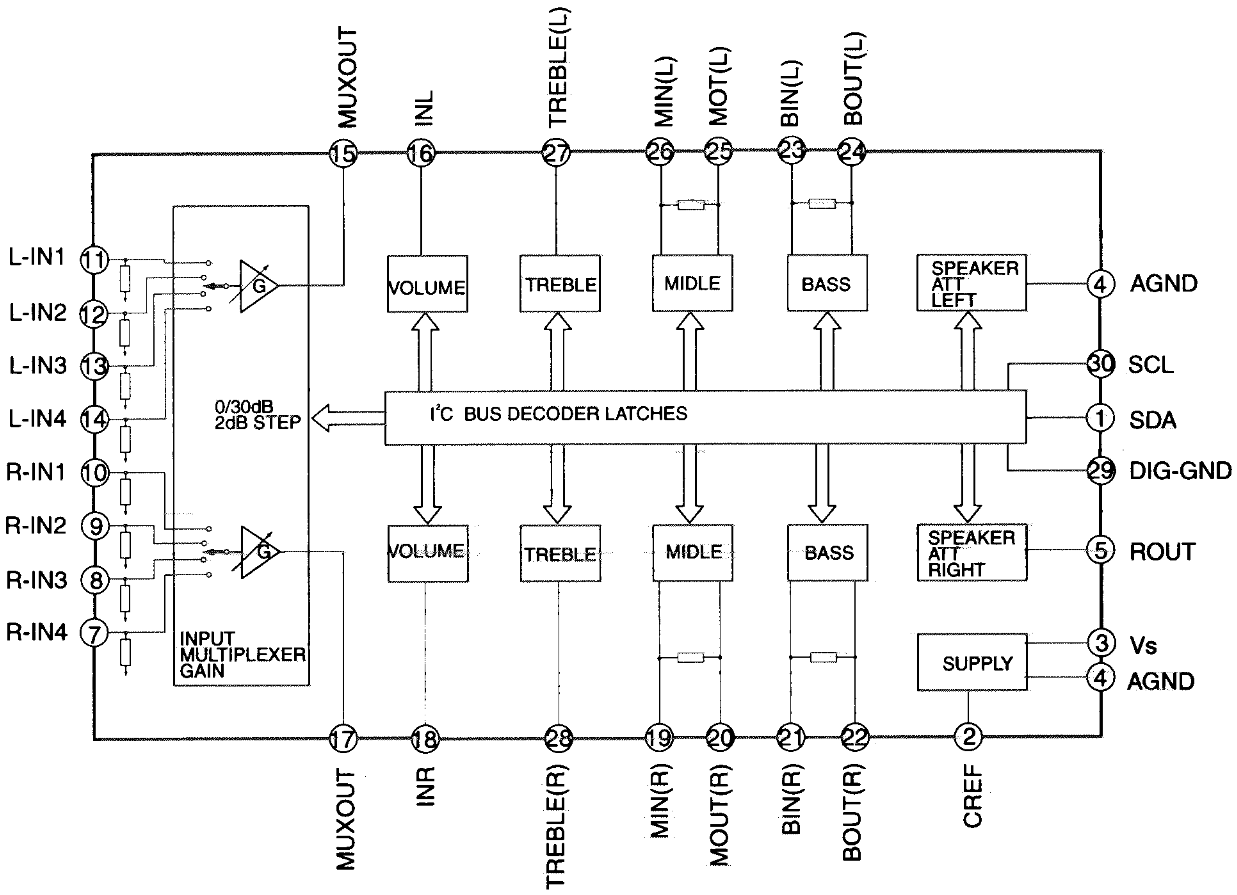

$\overline{\text{RAS}}$
$\overline{\text{CAS}}$
Clock Generator
Write Clock Generator
$\overline{\text{WE}}$
CBR Counter
A0-A9
A0
A9
Address Buffer
Row Decoders
Word Drivers
Memory Cells
Sense Amps
Clumn Decoders
I/O Selection
Data Input Buffer
DQ0 ~DQ3
Data Output Buffer
A0-A9
VSS
VCC
On Chip VBB Generator
VBB
$\overline{\text{OE}}$

■ MN150837J8R3(IC681) : CD CPU

Pin No.	Symbol	I/O	Function
1	RESET	I/O	Reset input of CD CPU
2	NC	-	Non connection
3	WATCH5V	I	Watch input of DSP & RF power supply
4	DOOR OPEN	I	Door open switch input of chenger mecha.
5	DOOR CLOSE	I	Door close switch input of chenger mecha.
6	PHOTO SW	I	Photo interraptur switch input of chenger mecha.
7	NC	-	Non connection
8	TRAY+	O	Tray motor (+) output
9	TRAY-	O	Tray motor (-) output
10	CAM+	O	Cam motor (+) output
11	CAM-	O	Cam motor (-) output
12	SUBQ	I	"Q" sub code data input terminal from DSP
13	NC	-	Non connection
14	INITAL SW	I	Initialais switch input
15	SUBSW	I	Sub switch input
16	RESETSW	I	Reset switch of CD mechanism
17	NC	-	Non connection
18	NC	-	Non connection
19	NC	-	Non connection
20	NC	-	Non connection
21	REQ	O	REQ output terminal to Main CPU
22	BLKCK	I	Sub code block clock signal input terminal from DSP
23	ST	I	ST input terminal from Main CPU
24	DATA	I	Serial data input terminal from Main CPU
25	CK	I	Clock input from Main CPU
26	STATS	I	Status signal input from DSP
27	TLOCK	I	Trackinng servo signal input terminal from DSP
28	FLOCK	I	Focus servo signal input terminal from DSP
29	SENSE	I	Sens. signal input terminal from DSP
30	NC	-	Non connection
31	SQCK	O	EXT. clock signal terminal of "Q" sub code resistor to DSP
32	MLD	O	CPU comand load signal output terminal to DSP
33	MDATA	O	CPU comand data signal output terminal to DSP
34	MCLK	O	CPU comand clock signal output terminal to DSP
35	RST	O	Reset output terminal to DSP
36	NC	-	Non connection
37	NC	-	Non connection
38	DRIVERMUTE	O	Mute terminal of spindle & feed motor
39	Vss	-	Ground
40	QSC2	O	System clock 4.19MHz
41	QSC1	I	System clock 4.19MHz
42	Vdd	-	Power supply (5.0V)
43	X1	-	Ground
44	NC	-	Non connection

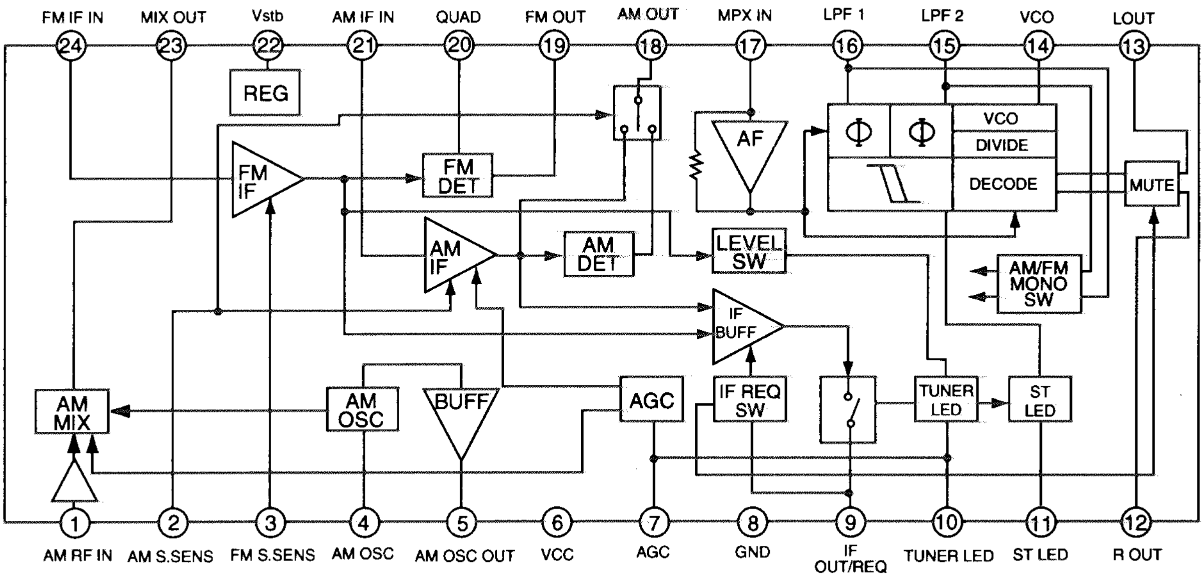
■TDA7439(IC671) : Audio Processor


SDA 1
CRE 2
Vs 3
AGND 4
ROUT 5
LOUT 6
R-IN4 7
R-IN3 8
R-IN2 9
R-IN1 10
L-IN1 11
L-IN2 12
L-IN3 13
L-IN4 14
MUXOUTL 15
TDA7439
30 CSL
29 DIG GND
28 TREBLE(R)
27 TREBLE(L)
26 MIN(L)
25 MOUT(L)
24 BOUT(L)
23 BIN(L)
22 BOUT(R)
21 BIN(R)
20 MOUT(R)
19 MIN(R)
18 INR
17 MUXOUTR
16 INL


MUXOUT
INL
TREBLE(L)
MIN(L)
MOT(L)
BIN(L)
BOUT(L)
15
16
27
26
25
23
24
L-IN1 11
L-IN2 12
L-IN3 13
L-IN4 14
R-IN1 10
R-IN2 9
R-IN3 8
R-IN4 7
G
0/30dB
2dB STEP
INPUT
MULTIPLEXER
GAIN
VOLUME
TREBLE
MIDLE
BASS
SPEAKER
ATT
LEFT
I²C BUS DECODER LATCHES
SPEAKER
ATT
RIGHT
SUPPLY
4 AGND
30 SCL
1 SDA
29 DIG-GND
5 ROUT
3 Vs
4 AGND
17
18
28
19
20
21
22
2
MUXOUT
INR
TREBLE(R)
MIN(R)
MOUT(R)
BIN(R)
BOUT(R)
CREF

■TA2057N(IC1):FM/AM IF AMP & Detector

1.Block Diagrams

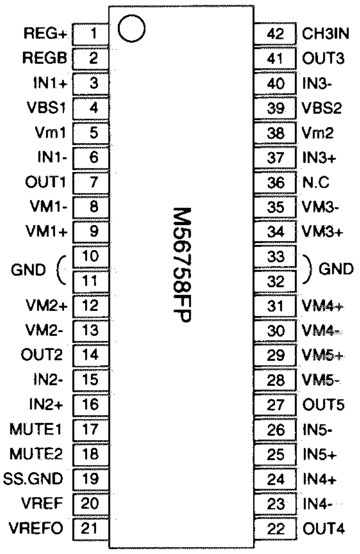

FM IF IN
MIX OUT
Vstb
AM IF IN
QUAD
FM OUT
AM OUT
MPX IN
LPF 1
LPF 2
VCO
LOUT
24
23
22
21
20
19
18
17
16
15
14
13
REG
FM IF
FM DET
AF
Φ
Φ
VCO
DIVIDE
DECODE
MUTE
AM IF
AM DET
LEVEL SW
AM/FM MONO SW
IF BUFF
AM MIX
AM OSC
BUFF
AGC
IF REQ SW
TUNER LED
ST LED
1
2
3
4
5
6
7
8
9
10
11
12
AM RF IN
AM S.SENS
FM S.SENS
AM OSC
AM OSC OUT
VCC
AGC
GND
IF OUT/REQ
TUNER LED
ST LED
R OUT

2.Pin Function

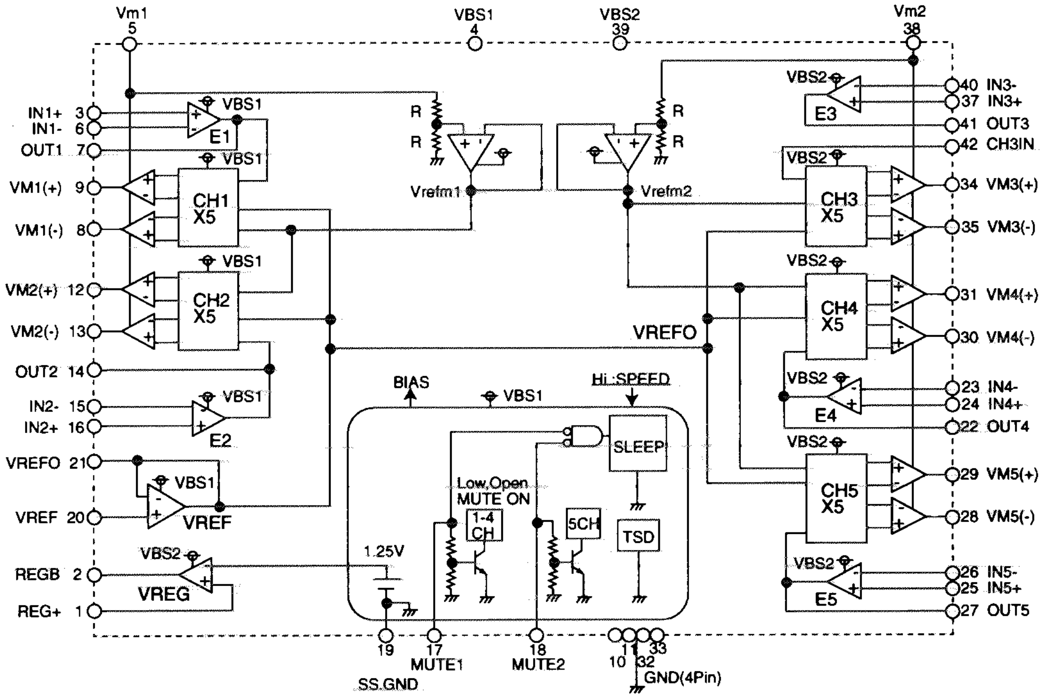
Pin No.	I/O	Symbol	Function	Pin No.	I/O	Symbol	Function
1	I	AM RF	AMRF signal input	13	O	Lch OUT	Output Lch
2		AM S.SENS		14	O	VCO	Voltage controlled terminal
3		FM S.SENS		15	O	LPF2	When voltage of terminal is MONO at "H" and ST at "L"
4	-	AM OSC	AM local oscillation circuit				
5	O	AM OSC OUT	AM local oscillation signal output	16	O	LPF1	When voltage of terminal is AM at "H" and FM at "L"
6	-	VCC	Power supply				
7	I	AGC	AGC voltage input terminal	17	I	MPX IN	Multi plex signal input
8	-	GND	Connect to GND	18	O	AM OUT	AM detection signal output
9	O	IF OUT	IF REQ signal output to IC2	19	O	FM OUT	FM detection signal output
10	O	TU IND	Indicator drive output when tuning	20	I	FM QUAD	Bypass to FMIF
11	O	ST IND	Stereo indicator output "H"mono . "L"stereo	21	I	AM IF IN	Input of AMIF signal
				22	-	Vst	Fixed voltage output terminal
12	O	Rch OUT	Output Rch	23	O	AM MIX OUT	Output terminal for AM mixer
				24	I	FM IF IN	Input of FMIF signal

■ M56758FP-X(IC410):5Channel actuater driver

1.Terminal Layout

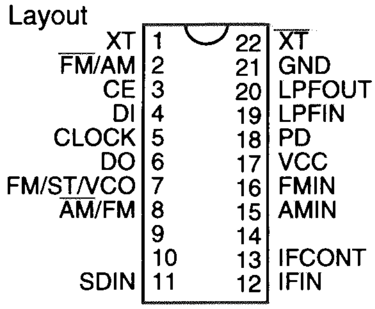

M56758FP
REG+ 1
REGB 2
IN1+ 3
VBS1 4
Vm1 5
IN1- 6
OUT1 7
VM1- 8
VM1+ 9
GND 10
11
VM2+ 12
VM2- 13
OUT2 14
IN2- 15
IN2+ 16
MUTE1 17
MUTE2 18
SS.GND 19
VREF 20
VREFO 21
42 CH3IN
41 OUT3
40 IN3-
39 VBS2
38 Vm2
37 IN3+
36 N.C
35 VM3-
34 VM3+
33 GND
32
31 VM4+
30 VM4-
29 VM5+
28 VM5-
27 OUT5
26 IN5-
25 IN5+
24 IN4+
23 IN4-
22 OUT4

2.Block Diagram

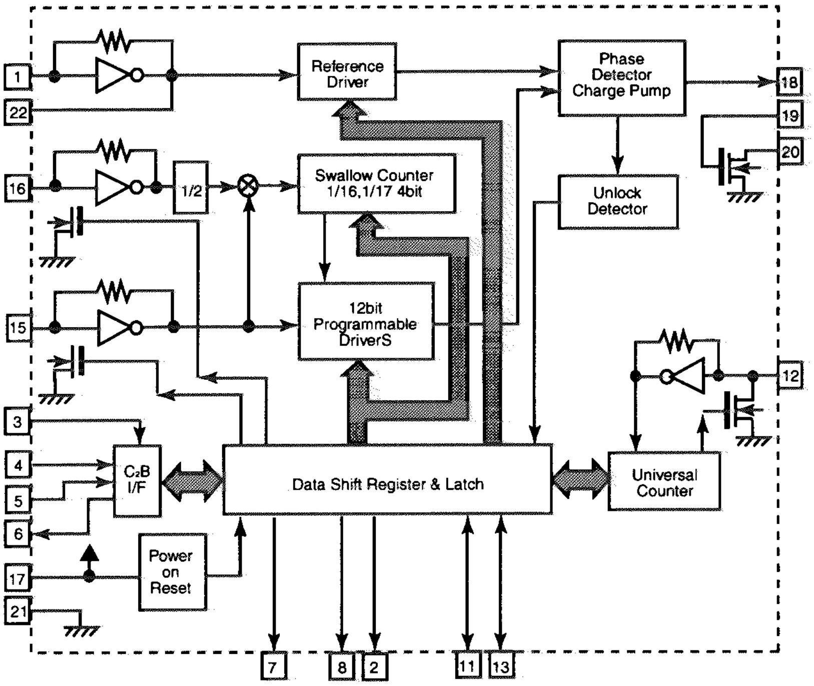

Vm1 5
VBS1 4
VBS2 39
Vm2 38
IN1+ 3
IN1- 6
OUT1 7
VM1(+) 9
VM1(-) 8
VM2(+) 12
VM2(-) 13
OUT2 14
IN2- 15
IN2+ 16
VREFO 21
VREF 20
REGB 2
REG+ 1
E1
CH1 X5
CH2 X5
E2
VREF
VREG
VBS1
VBS2
R
Vrefm1
Vrefm2
VREFO
BIAS
Hi:SPEED
SLEEP
Low,Open MUTE ON
1-4 CH
5CH
TSD
1.25V
19 SS.GND
17 MUTE1
18 MUTE2
10 11 32 33 GND(4Pin)
E3
CH3 X5
CH4 X5
E4
CH5 X5
E5
40 IN3-
37 IN3+
41 OUT3
42 CH3IN
34 VM3(+)
35 VM3(-)
31 VM4(+)
30 VM4(-)
23 IN4-
24 IN4+
22 OUT4
29 VM5(+)
28 VM5(-)
26 IN5-
25 IN5+
27 OUT5

■LC72136N(IC2):PLL Frequency sinsesizer

1. Layout


XT 1
$\overline{\text{FM}}$/AM 2
CE 3
DI 4
CLOCK 5
DO 6
FM/$\overline{\text{ST}}$/VCO 7
$\overline{\text{AM}}$/FM 8
9
10
SDIN 11
22 $\overline{\text{XT}}$
21 GND
20 LPFOUT
19 LPFIN
18 PD
17 VCC
16 FMIN
15 AMIN
14
13 IFCONT
12 IFIN

2. Block

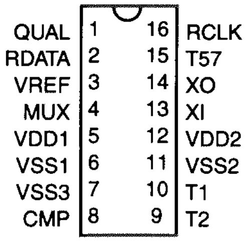

1
22
16
15
3
4
5
6
17
21
1/2
Reference Driver
Swallow Counter 1/16,1/17 4bit
12bit Programmable DriverS
Phase Detector Charge Pump
Unlock Detector
C₂B I/F
Power on Reset
Data Shift Register & Latch
Universal Counter
18
19
20
12
7
8
2
11
13

3. Function

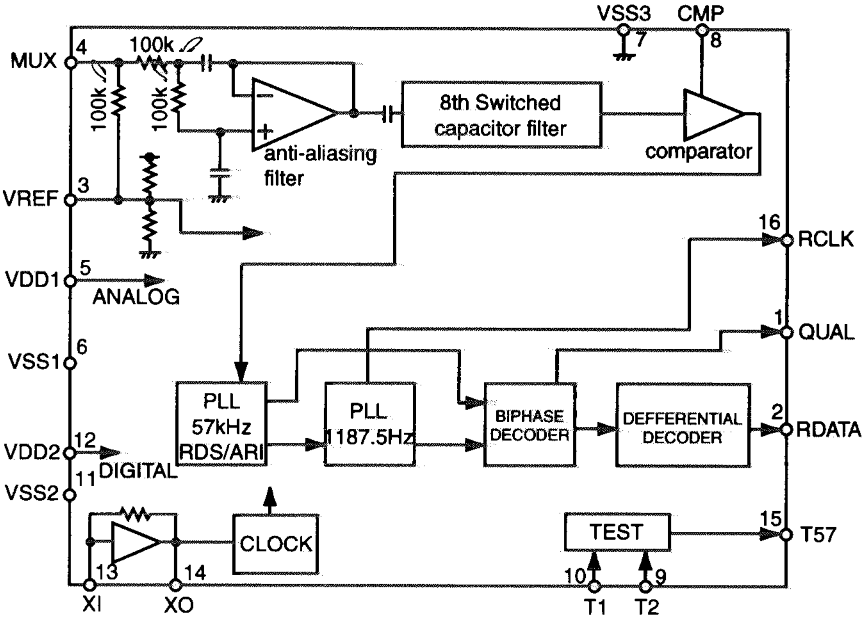
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XT	I	X'tal oscillator connect (75kHz)	12	IFIN	I	IF counter signal input
2	$\overline{\text{FM}}$/AM	O	LOW:FM mode	13	IFCONT	O	IF signal output
3	CE	I	When data output/input for 4pin(input) and 6pin(output): H	14		-	Not use
4	DI	I	Input for receive the sirisl data from controller	15	AMIN	I	AM Local OSC signal output
5	CLOCK	I	Sync signal input use	16	FMIN	I	FM Local OSC signal input
6	DO	O	Data output for Controller Output port	17	VCC	-	Power suplly(VDD=4.5-5.5V) When power ON:Reset circuit move
7	FM/ST/VCO	O	"Low": MW mode	18	PD	O	PLL charge pump output(H: Local OSC frequency Height than Reference frequency. L: Low Agreement: Height impedance)
8	AM/FM	O	Not use	19	LPFIN	I	Input for active lowpassfilter of PLL
9	—	-	Not use	20	LPFOUT	O	Output for active lowpassfilter of PLL
10		-	Input/output port	21	GND	-	Connected to GND
11	SDIN	I/O	Data input/output	22	$\overline{\text{XT}}$	I	X'tal oscillator(75KHz)

■ BU1922(IC4):RDS Detector

1.Terminal Layout


QUAL 1
RDATA 2
VREF 3
MUX 4
VDD1 5
VSS1 6
VSS3 7
CMP 8
16 RCLK
15 T57
14 XO
13 XI
12 VDD2
11 VSS2
10 T1
9 T2

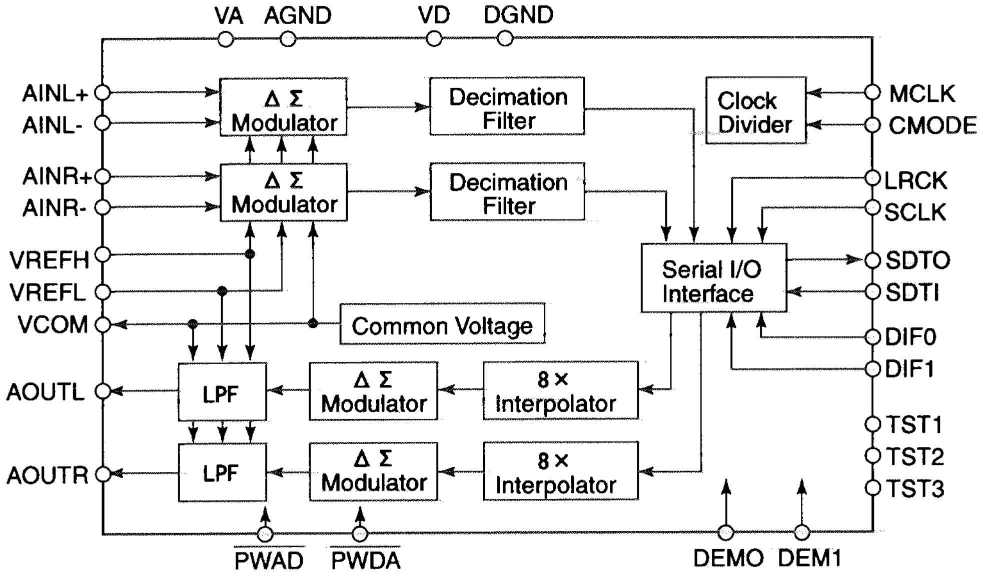
2.Pin Function


VSS3
CMP
7
8
MUX
4
100k
100k
100k
anti-aliasing filter
8th Switched capacitor filter
comparator
VREF
3
16
RCLK
VDD1
5
ANALOG
1
QUAL
VSS1
6
PLL 57kHz RDS/ARI
PLL 1187.5Hz
BIPHASE DECODER
DEFFERENTIAL DECODER
2
RDATA
VDD2
12
11
DIGITAL
VSS2
CLOCK
TEST
15
T57
13
14
XI
XO
10
9
T1
T2

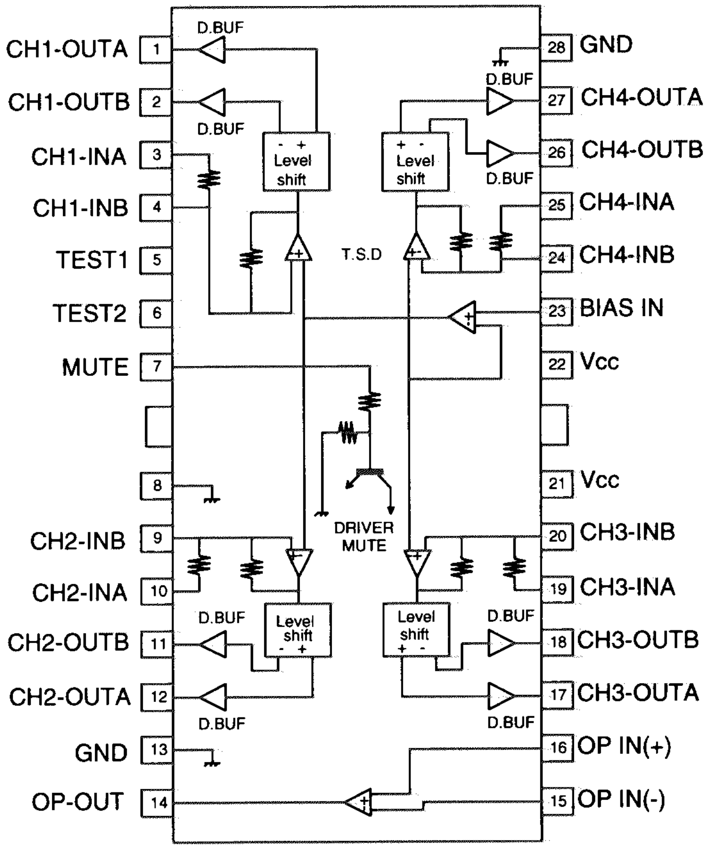
3.Pin Function

Pin No.	Symbol	I/O	Function
1	QUAL	--	Non connection
2	RDDA	O	RDS data output
3	VR	O	Reference voltage output
4	MUX	I	Multiplex signal input
5	VDDA	--	+5Vsupply voltage for analog
6	VSSA	--	Ground for analog part(0V)
7	CIN	I	Subcarrier outputof reconstruction filter
8	SCOUT	O	Ground for digital part(0V)
9	MODE	--	Ground for digital part(0V)
10	TES	--	Ground for digital part(0V)
11	VSSD	--	Ground for digital part(0V)
12	VDDD	--	+5Vsupply voltage for digital part
13	OSC2	I	Oscilator input
14	OSC1	O	Oscilator output
15	TS7	--	Non connection
16	RDCL	O	RDS clock output

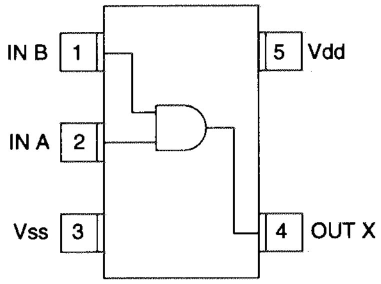
■ AK4520A-VF-X(IC480):A/D&D/A Converter

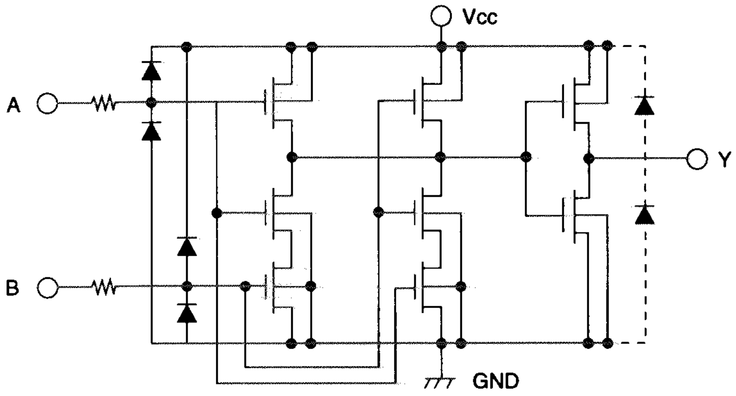

VA
AGND
VD
DGND
AINL+
AINL-
AINR+
AINR-
VREFH
VREFL
VCOM
AOUTL
AOUTR
Δ Σ Modulator
Decimation Filter
Clock Divider
MCLK
CMODE
LRCK
SCLK
Serial I/O Interface
SDTO
SDTI
DIF0
DIF1
Common Voltage
LPF
8× Interpolator
TST1
TST2
TST3
PWAD
PWDA
DEMO
DEM1

■ BA6897FPW(IC641):4channel driver

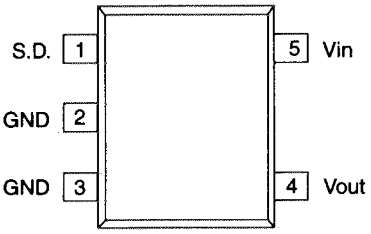

CH1-OUTA 1
CH1-OUTB 2
CH1-INA 3
CH1-INB 4
TEST1 5
TEST2 6
MUTE 7
8
CH2-INB 9
CH2-INA 10
CH2-OUTB 11
CH2-OUTA 12
GND 13
OP-OUT 14
28 GND
27 CH4-OUTA
26 CH4-OUTB
25 CH4-INA
24 CH4-INB
23 BIAS IN
22 Vcc
21 Vcc
20 CH3-INB
19 CH3-INA
18 CH3-OUTB
17 CH3-OUTA
16 OP IN(+)
15 OP IN(-)
D.BUF
Level shift
T.S.D
DRIVER MUTE

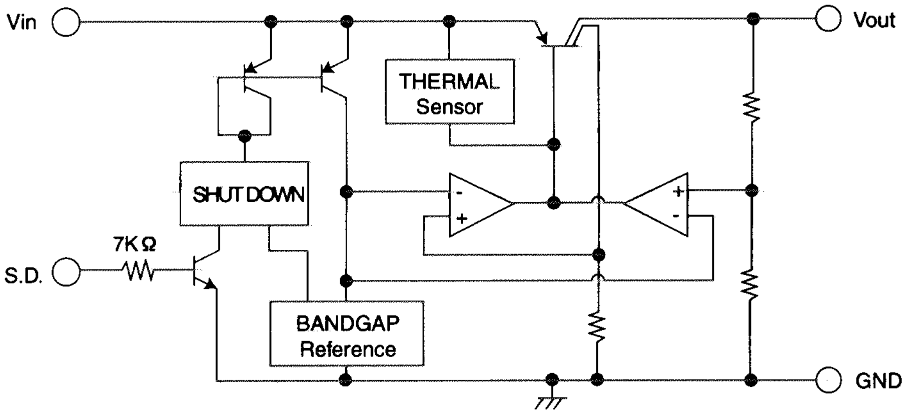
■ TC7S08F-W(IC340)


IN B
1
IN A
2
Vss
3
5
Vdd
4
OUT X

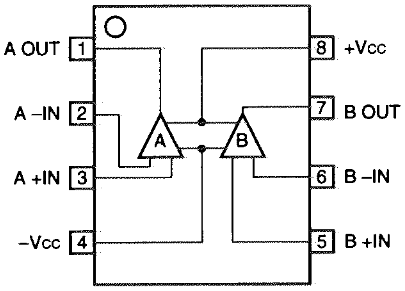


■ TK71340M(IC485):REGURATOR

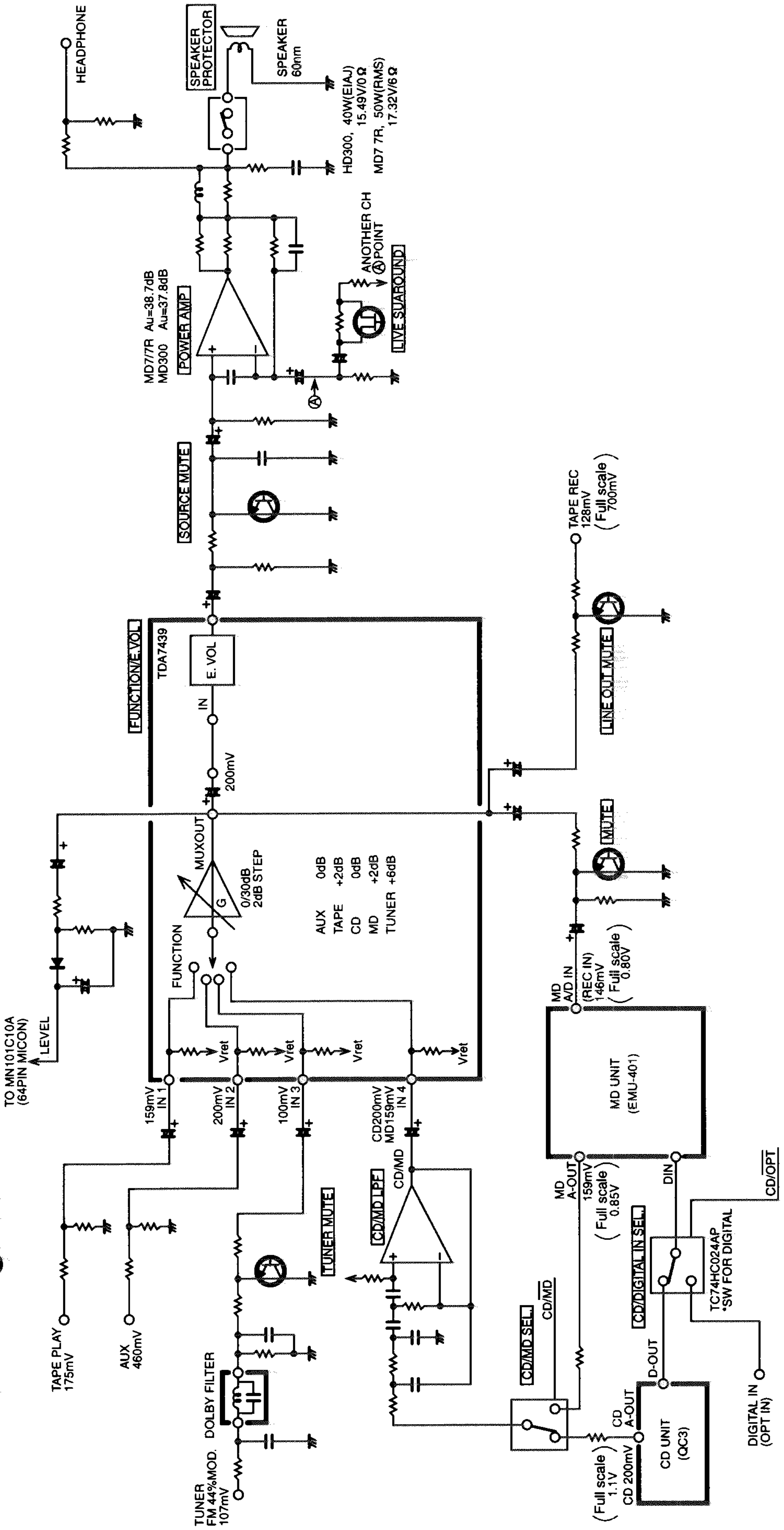

S.D.
1
GND
2
GND
3
5
Vin
4
Vout


Vin
Vout
THERMAL
Sensor
SHUT DOWN
7KΩ
S.D.
BANDGAP
Reference
GND

■ NJM4580D(IC672,IC676):Dual Ope. Amp

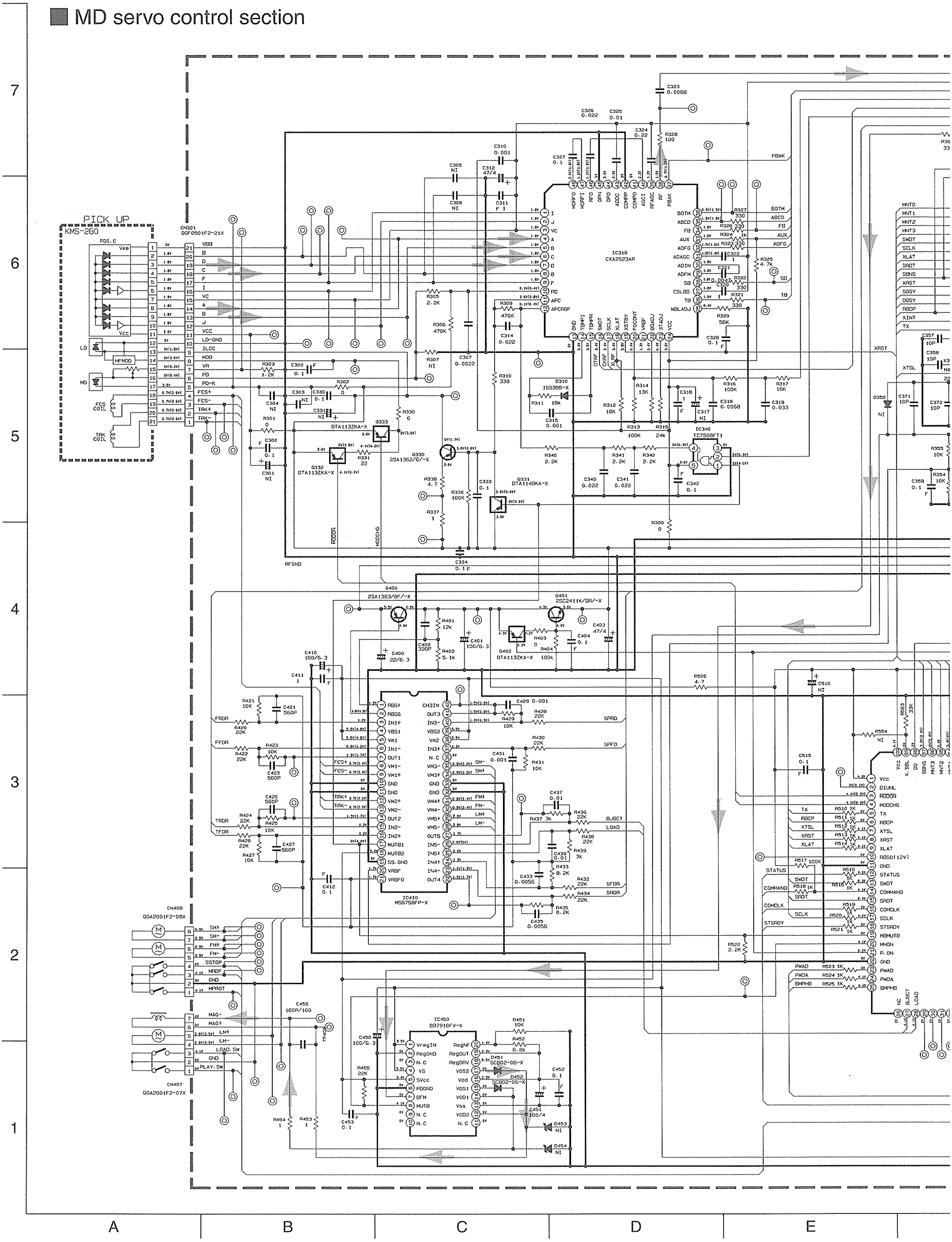

A OUT
1
A –IN
2
A +IN
3
–Vcc
4
8
+Vcc
7
B OUT
6
B –IN
5
B +IN
A
B

Block diagram

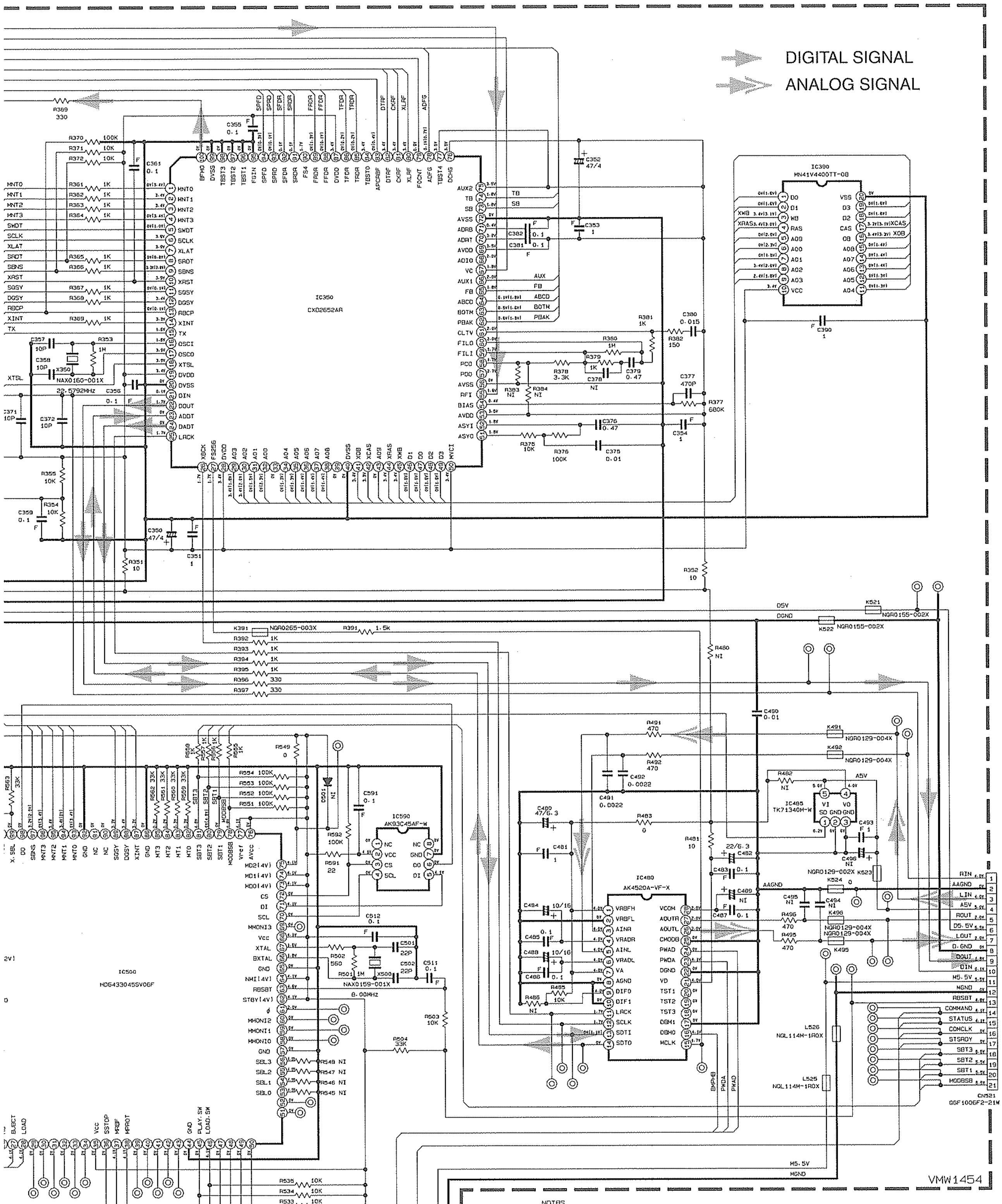

HEADPHONE
SPEAKER PROTECTOR
SPEAKER 6Ωnm
HD300, 40W(EIAJ) 15.49V/0Ω
MD7 7R, 50W(RMS) 17.32V/6Ω
ANOTHER CH Ⓐ POINT
LIVE SUAROUND
MD7/7R Au=38.7dB
MD300 Au=37.8dB
POWER AMP
Ⓐ
SOURCE MUTE
TAPE REC 128mV (Full scale 700mV)
LINE OUT MUTE
FUNCTION/E.VOL
TDA7439
E. VOL
IN
200mV
MUXOUT
0/30dB 2dB STEP
G
AUX 0dB
TAPE +2dB
CD 0dB
MD +2dB
TUNER +6dB
MUTE
FUNCTION
Vref
Vref
Vref
Vref
MD A/D IN (REC IN) 146mV (Full scale 0.80V)
TO MN101C10A (64PIN MICON)
LEVEL
159mV IN 1
200mV IN 2
100mV IN 3
CD200mV MD159mV IN 4
MD UNIT (EMU-401)
MD A-OUT 159mV (Full scale 0.85V)
DIN
CD/OPT
CD/MD
CD/MD LPF
TUNER MUTE
CD/DIGITAL IN SEL.
TC74HC024AP *SW FOR DIGITAL
CD/MD SEL.
CD/MD
D-OUT
TAPE PLAY 175mV
AUX 460mV
DOLBY FILTER
TUNER FM 44%MOD. 107mV
CD A-OUT
CD 200mV 1.1V (Full scale)
CD UNIT (QC3)
DIGITAL IN (OPT IN)

Standerd schematic diagram

■ MD servo control section



7
6
5
4
3
2
1
A
B
C
D
E
PICK UP
KMS-260
PDI.C
Vee
Vcc
LD
HFMOD
MD
FCS COIL
TRK COIL
CN321
QGF0501F2-21X
VBB
B
D
C
F
I
VC
A
E
J
VCC
LD-GND
ILCC
MOD
VR
PD
PD-K
FCS+
FCS-
TRK+
TRK-
IC310
CXA2523AR
C323 0.0068
C326 0.022
C325 0.01
C324 0.22
R328 100
C310 0.001
C312 47/4
C311 F 1
C305 NI
C327 0.1
PBAK
BOTM
ABCD
FB
AUX
ADFG
ADAGC
ADIN
ADFM
SB
CSLED
TB
WBLADJ
R327 330
R326 330
R324 1k
R323 330
R322
R321 330
R325 4.7K
C322 1
C321 0.0047
C320 1
R320 56K
C328 0.1
R305 2.2K
R306 470K
R307 NI
C307 0.0022
R309 470K
C314 0.022
R303 1.2K
C302 0.1 F
C304 NI
C303 NI
C330 0.1
R302 0
C331 NI
R301 0
C300 0.1
C301 NI
R330 0
Q333 DTA113ZKA-X
Q332 DTA113ZKA-X
R331 22
Q330 2SA1362/G/-X
R310 330
D310 1SS355-X
R311 18K
C315 0.001
R312 10K
R313 100K
R314 13K
R315 24k
C316 1
C317 NI
C318 0.0068
R316 100K
R317 10K
C319 0.033
IC340 TC7S08FT1
R340 2.2K
R341 2.2K
R342 2.2K
C340 0.022
C341 0.022
C342 0.1
R338 4.7
R336 100K
R337 1
C333 0.1
Q331 DTA114EKA-X
R300 0
C334 0.1 F
RFGND
MODON
MODCHG
Q400 2SA1363/BF/-X
Q401 2SC2411K/QR/-X
R401 12k
C402 330P
R402 5.1k
C400 22/6.3
C401 100/6.3
Q402 DTA113ZKA-X
R403 0
R404 100k
C404 0.1
C403 47/4
C410 100/6.3
C411 1
R505 4.7
C510 NI
R421 10K
C421 560P
R420 22K
FRDR
FFDR
R423 10K
R422 22K
C423 560P
C425 560P
R424 22K
R425 10K
TRDR
TFDR
R426 22K
C427 560P
R427 10K
IC410
M56758FP-X
RBG+
RBGB
IN1+
VBS1
VM1
IN1-
OUT1
VM1-
VM1+
GND
VM2+
VM2-
OUT2
IN2-
IN2+
MUTB1
MUTB2
SS.GND
VRBF
VRBFO
CH3IN
OUT3
IN3-
VBS2
VM2
IN3+
N.C
VM3-
VM3+
VM4+
VM4-
VM5+
VM5-
OUT5
IN5-
IN5+
IN4+
IN4-
OUT4
C429 0.001
R428 22K
R429 10K
SPRD
R430 22K
SPFD
C431 0.001
R431 10K
C437 0.01
R436 22K
R437 3K
BJECT
LOAD
R438 22K
C439 0.01
R439 3K
R433 8.2K
C433 0.0056
R432 22K
SFDR
R434 22K
SRDR
R435 8.2K
C435 0.0056
C412 0.1
CN408
QGA2001F2-08X
SM+
SM-
FM+
FM-
SSTOP
MREF
GND
MPROT
CN407
QGA2001F2-07X
MAG-
MAG+
LM+
LM-
LOAD.SW
GND
PLAY.SW
C455 100P/100
TP451
IC450
BD7910FV-X
VregIN
RegGND
N.C
VG
SVcc
PDGND
BFM
MUTB
N.C
N.C
RegNF
RegOUT
RegDRV
VOS2
Vdd
VOS1
VOD1
Vss
VOD2
N.C
R451 10K
R452 6.8K
D451 SCB02-06-X
D452 SCB02-06-X
C452 0.1
C451 100/4
D453 NI
D454 NI
C450 100/6.3
R455 22K
C453 0.1
R454 1
R453 1
R522 2.2K
R564 NI
R563 33K
C515 0.1
Vcc
DIUNL
MODON
MODCHG
TX
RBCP
XTSL
XRST
XLAT
RBSD(12V)
GND
STATUS
SWDT
COMMAND
SRDT
COMCLK
SCLK
STSRDY
MBMUTE
MHON
P.ON
GND
PWAD
PKDA
BMPHB
R510 1K
R511 1K
R512 1K
R513 1K
R514 1K
R517 100K
R515 1K
R518 1K
R516 1K
R519 1K
R520 1K
R521 1K
R523 1K
R524 1K
R525 1K
MNT0
MNT1
MNT2
MNT3
SWDT
SCLK
XLAT
SRDT
SENS
XRST
SQSY
DQSY
RBCP
XINT
TX
XRST
XTSL
C357 10P
C358 10P
C371 10P
C372 10P
D350 NI
R355 10K
R354 10K
C359 0.1
VCC
X.SBL
DO
SENS
MNT3
MNT2
NC
EJECT
LOAD
R38 33


DIGITAL SIGNAL
ANALOG SIGNAL
IC350
CXD2652AR
IC390
MN41V4400TT-08
IC500
HD6433045SV06F
IC590
AK93C45AF-W
IC480
AK4520A-VF-X
IC485
TK71340H-W
X350
NAX0160-001X
22.5792MHz
X500
NAX0159-001X
8.00MHz
K391
NQR0265-003X
K521
NQR0155-002X
K522
NQR0155-002X
L526
NQL114M-1R0X
L525
NQL114M-1R0X
CN521
QGF1006F2-21W
RIN
AAGND
LIN
A5V
ROUT
D5.5V
LOUT
D.GND
DOUT
DIN
M5.5V
MGND
RESET
COMMAND
STATUS
COMCLK
STSRDY
SBT3
SBT2
SBT1
MODESB
M5.5V
MGND
VMW1454

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION --- STOP(PLAY)

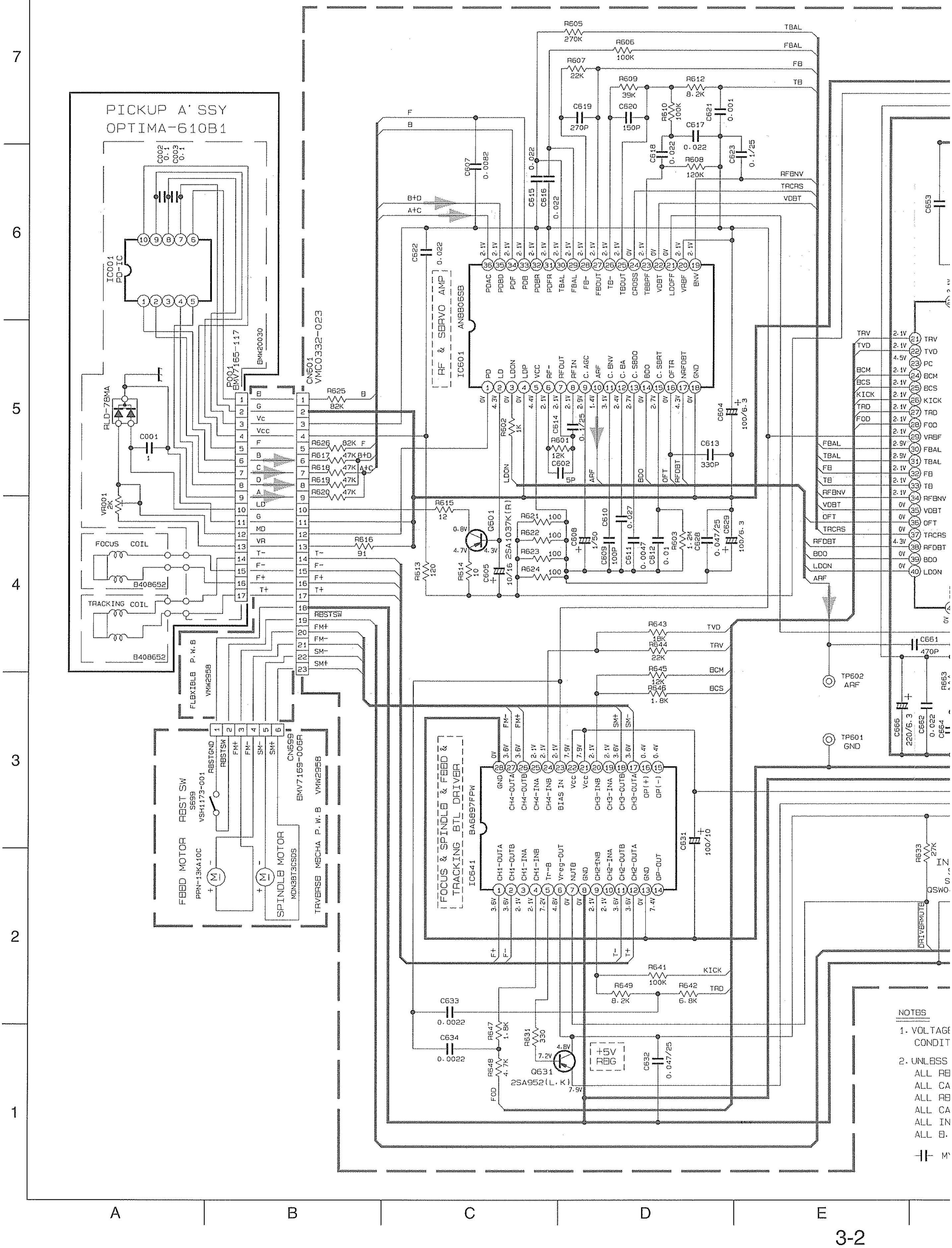
2. UNLESS OTHERWISE SPECIFIED.

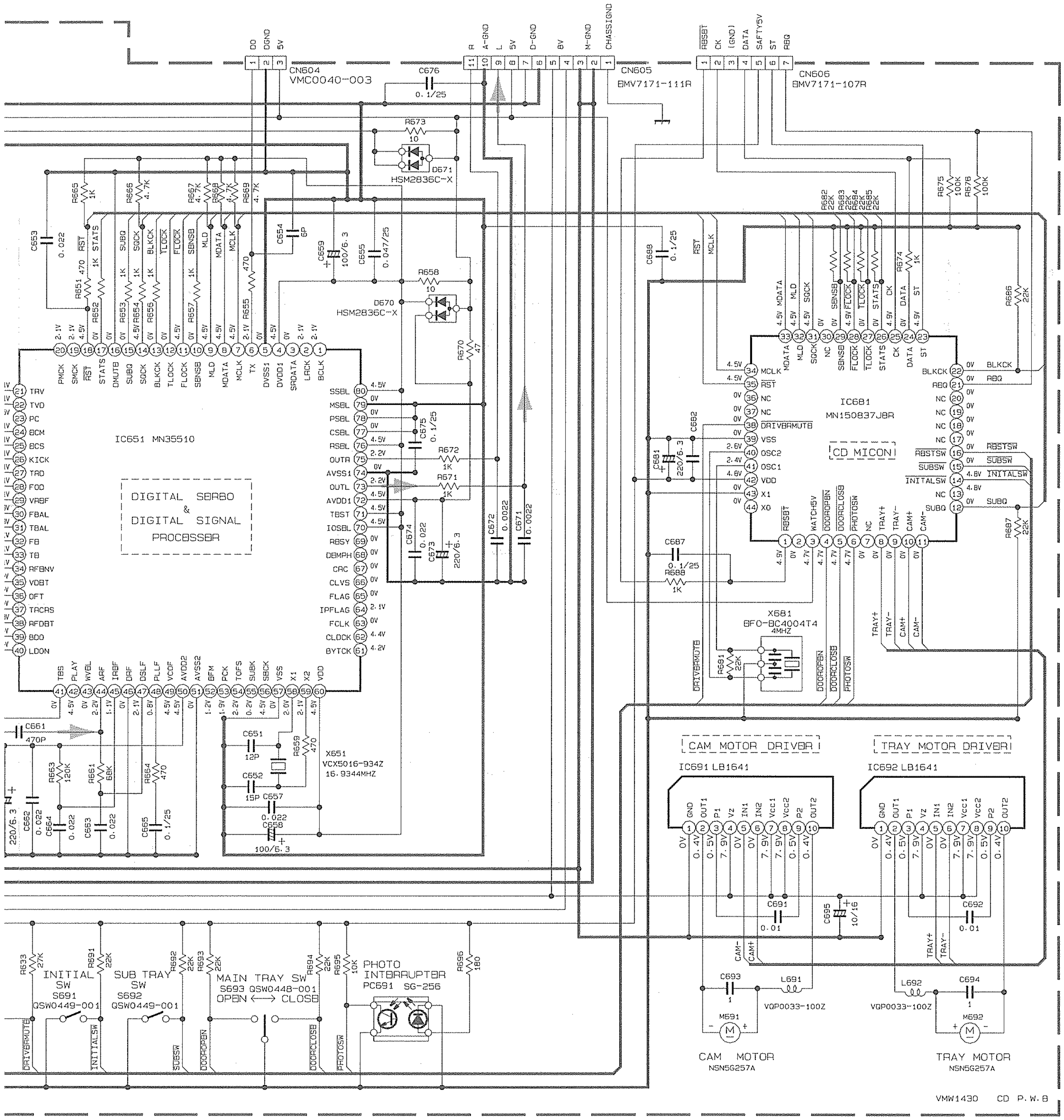
   ALL RESISTORS ARE 1/10W ±5% METAL GLAZE RESISTOR. OR 0.5% METAL FILM RESISTOR
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).

3. NI STANDS FOR NOT INSERTED PARTS.

F G H I J

CD changer servo control section


PICKUP A'SSY
OPTIMA-610B1
IC001
PD-IC
C002 0.1
C003 0.1
RLD-78MA
C001 1
VR001 2K
FOCUS COIL
TRACKING COIL
B408652
P001
BMV7165-117
BMW20030
CN601
VMC0332-023
FLEXIBLE P.W.B
VMW2958
RF & SERVO AMP
IC601
AN8805SB
PDAC
PDBD
PDF
PDB
PDBR
PDFR
TBAL
FBAL
FB-
FBOUT
TB-
TBOUT
CROSS
TEBPF
VDBT
LDOFF
VREF
ENV
PD
LD
LDON
LDP
VCC
RF-
RFOUT
RFIN
C.AGC
ARF
C.ENV
C.EA
C.SBDO
BDO
C.SBRT
OFTR
NRFDET
GND
R605 270K
R606 100K
R607 22K
R609 39K
R612 8.2K
R610 100K
C619 270P
C620 150P
C621 0.001
C617 0.022
C618 0.022
R608 120K
C623 0.1/25
C607 0.0082
C615 0.022
C616 0.022
C622 0.022
TBAL
FBAL
FB
TB
RFENV
TRCRS
VDBT
B+D
A+C
R625 82K
R626 82K
R617 47K
R618 47K
R619 47K
R620 47K
R615 12
R616 91
R613 120
R614 10
C605 10/16
Q601 2SA1037K(R)
0.8V
4.7V
4.3V
R602 1K
R601 12K
C614 0.1/25
C602 5P
C604 100/6.3
C613 330P
R621 100
R622 100
R623 100
R624 100
C608 1/50
C609 100P
C610 0.027
C611 0.0047
C612 0.01
R603 1.2M
C628 0.047/25
C629 100/6.3
RESTSW
FM+
FM-
SM-
SM+
T-
F-
F+
T+
B
G
Vc
Vcc
F
C
D
A
LD
MD
VR
TRV
TVD
PC
BCM
BCS
KICK
TRD
FOD
VREF
FBAL
TBAL
FB
TB
RFENV
VDBT
OFT
TRCRS
RFDET
BDO
LDON
ARF
C653
C661 470P
C666 220/6.3
C662 0.022
C664
R653
TP602 ARF
TP601 GND
R643 18K
R644 22K
R645 12K
R646 1.8K
REST SW
S699
VSH1173-001
RESTGND
CN699
BMV7169-006R
FEED MOTOR
PPN-13KA10C
SPINDLE MOTOR
MDN3BT3CSDS
TRAVERSE MECHA P.W.B
VMW2958
FOCUS & SPINDLE & FEED & TRACKING BTL DRIVER
IC641
BA6897FPW
GND
CH4-OUTA
CH4-OUTB
CH4-INA
CH4-INB
BIAS IN
Vcc
CH3-INB
CH3-INA
CH3-OUTB
CH3-OUTA
OP(+)
OP(-)
CH1-OUTA
CH1-OUTB
CH1-INA
CH1-INB
Tr-B
Vreg-OUT
MUTE
CH2-INB
CH2-INA
CH2-OUTB
CH2-OUTA
OP-OUT
C631 100/10
R641 100K
R642 6.8K
R649 8.2K
KICK
TRD
C633 0.0022
C634 0.0022
R647 1.8K
R648 4.7K
FOD
R631 330
Q631 2SA952(L.K)
+5V REG
C632 0.047/25
R633 27K
DRIVERMUTE
NOTES
1. VOLTAGE
CONDIT
2. UNLESS
ALL RE
ALL CA
ALL RE
ALL CA
ALL IN
ALL E.
A
B
C
D
E
1
2
3
4
5
6
7


CN604
VMC0040-003
DO
DGND
5V
C676
0.1/25
CN605
BMV7171-111R
R
A-GND
L
5V
D-GND
8V
M-GND
CHASSIGND
CN606
BMV7171-107R
RESET
CK
(GND)
DATA
SAFTY5V
ST
REQ
R673
10
D671
HSM2836C-X
R658
10
D670
HSM2836C-X
C659
100/6.3
C655
0.047/25
C654
6P
C653
0.022
R670
47
IC651 MN35510
DIGITAL SERVO
&
DIGITAL SIGNAL
PROCESSOR
C675
0.1/25
R672
1K
R671
1K
C674
0.022
C673
220/6.3
C672
0.0022
C671
0.0022
C661
470P
R663
120K
R661
68K
R664
470
C662
0.022
C664
0.022
C663
0.022
C665
0.1/25
220/6.3
C651
12P
C652
15P
C657
0.022
C658
100/6.3
R659
470
X651
VCX5016-934Z
16.9344MHZ
C688
0.1/25
IC681
MN150837JBR
CD MICON
C681
220/6.3
C682
C687
0.1/25
R688
1K
X681
BFO-BC4004T4
4MHZ
R681
22K
R675
100K
R676
100K
R674
1K
R686
22K
R687
22K
CAM MOTOR DRIVER
IC691 LB1641
TRAY MOTOR DRIVER
IC692 LB1641
C691
0.01
C695
10/16
C692
0.01
C693
1
L691
VQP0033-100Z
L692
VQP0033-100Z
C694
1
M691
CAM MOTOR
NSN5G257A
M692
TRAY MOTOR
NSN5G257A
R633
27K
INITIAL SW
S691
QSW0449-001
R691
22K
SUB TRAY SW
S692
QSW0449-001
R692
22K
R693
22K
MAIN TRAY SW
S693 QSW0448-001
OPEN ⟷ CLOSE
R694
22K
R695
10K
PHOTO INTERRUPTER
PC691 SG-256
R696
180
VMW1430 CD P.W.B

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER
   CONDITION: MODE : STOP

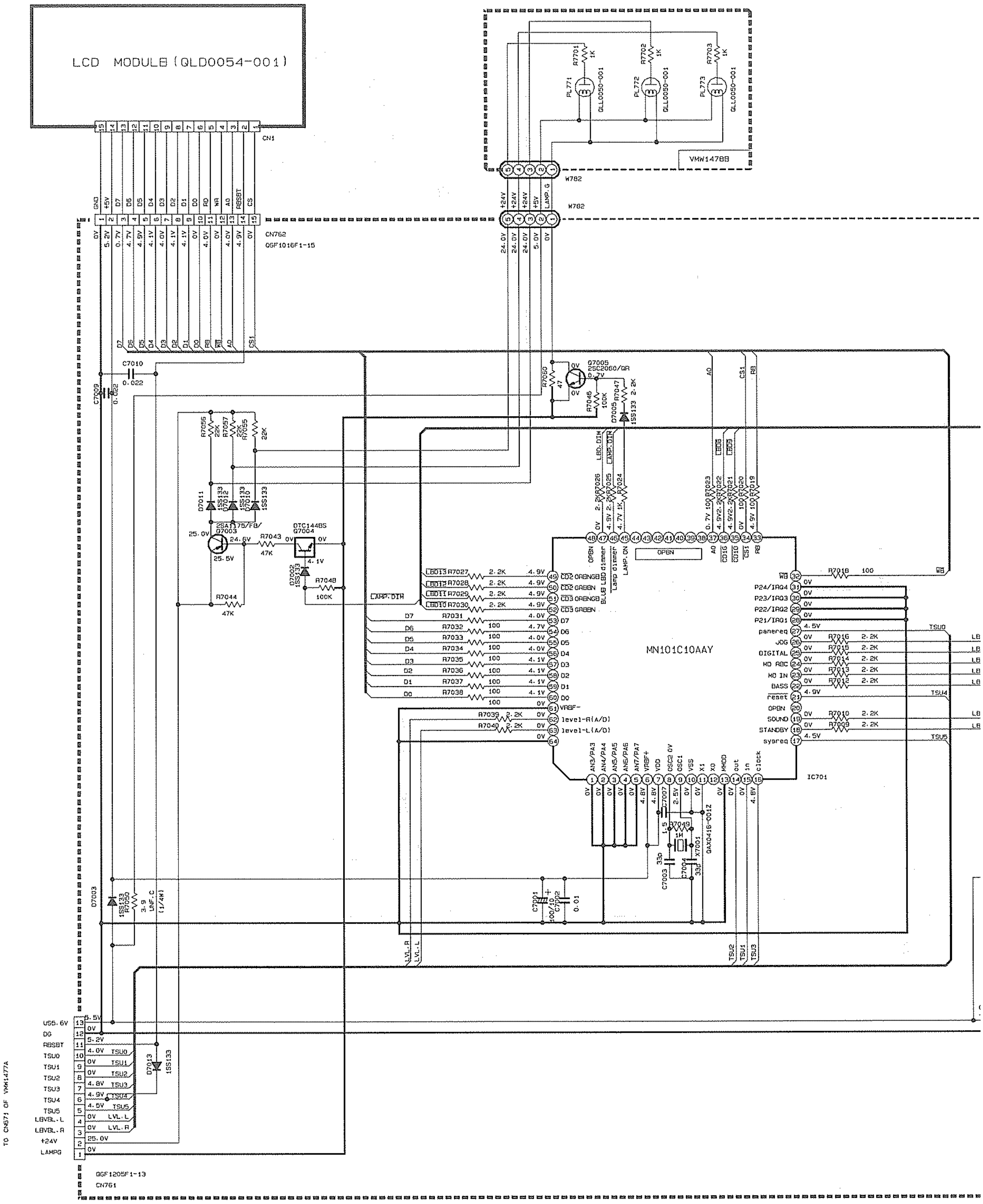
2. UNLESS OTHERWISE SPECIFIED,
   ALL RESISTOR ARE 1/10W ± 5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN µF(P=pF).
   ALL INDUCTANCE VALUES ARE IN HENRY(H).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(µF)/RATED VOLTAGE (V).

   ⊣⊢ MYLAR CAPACITOR

➡ CD MAIN SIGNAL

F	G	H	I	J

Front key circuit section

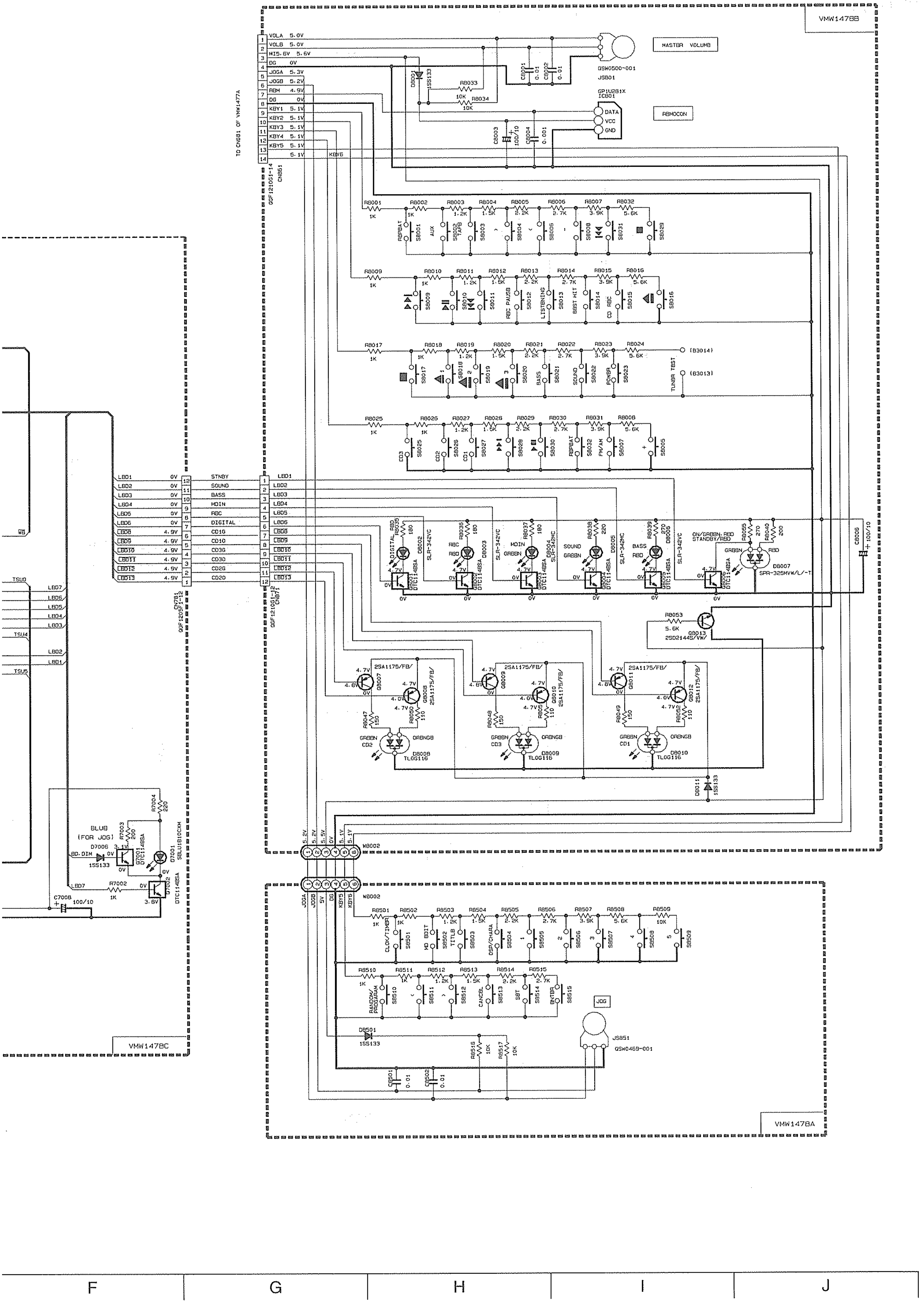


LCD MODULE (QLD0054-001)
CN1
GND
+5V
D7
D6
D5
D4
D3
D2
D1
D0
RD
WR
A0
RESET
CS
CN762
QGF1016F1-15
VMW1478E
R7701 1K
R7702 1K
R7703 1K
PL771
PL772
PL773
QLL0050-001
W782
+24V
LAMP.G
24.0V
5.0V
0V
Q7005
2SC2060/QR
R7050 47
R7045 100K
R7047 2.2K
D7005 1SS133
C7010 0.022
C7009 0.022
R7056 22K
R7057 22K
R7055 22K
D7011
D7012 1SS133
D7010 1SS133
Q7003 2SA1175/F0/
25.0V
24.6V
25.5V
R7043 47K
Q7004 DTC144ES
4.1V
D7002 1SS133
R7048 100K
R7044 47K
LAMP.DIM
LED.DIM
R7026
R7025
R7024
R7023
R7022
R7021
R7020
R7019
OPEN
LED13 R7027 2.2K
LED12 R7028 2.2K
LED11 R7029 2.2K
LED10 R7030 2.2K
R7031
R7032 100
R7033 100
R7034 100
R7035 100
R7036 100
R7037 100
R7038 100
R7039 2.2K
R7040 2.2K
CO2 ORENGE
CO2 GREEN
CO3 ORENGE
CO3 GREEN
VREF-
level-R(A/D)
level-L(A/D)
MN101C10AAY
IC701
WR
P24/IRQ4
P23/IRQ3
P22/IRQ2
P21/IRQ1
panereq
JOG
DIGITAL
MD REC
MD IN
BASS
reset
OPEN
SOUND
STANDBY
sysreq
R7018 100
R7016 2.2K
R7015 2.2K
R7014 2.2K
R7013 2.2K
R7012 2.2K
R7010 2.2K
R7009 2.2K
TSU0
TSU4
TSU5
AN3/PA3
AN4/PA4
AN5/PA5
AN6/PA6
AN7/PA7
VREF+
VDD
OSC2
OSC1
VSS
X1
X0
MMOD
out
in
clock
C7007 1.5
R7049 1M
X7001 QAX0416-001Z
C7003 33P
C7004 33P
C7001 100/10
C7002 0.01
LVL.R
LVL.L
TSU2
TSU1
TSU3
D7003 1SS133
R7060 3.9 UNF.C (1/4W)
D7013 1SS133
VS5.6V
DG
RESET
TSU0
TSU1
TSU2
TSU3
TSU4
TSU5
LEVEL.L
LEVEL.R
+24V
LAMPG
TO CN571 OF VMW1477A
QGF1205F1-13
CN761
7
6
5
4
3
2
1
A
B
C
D
E

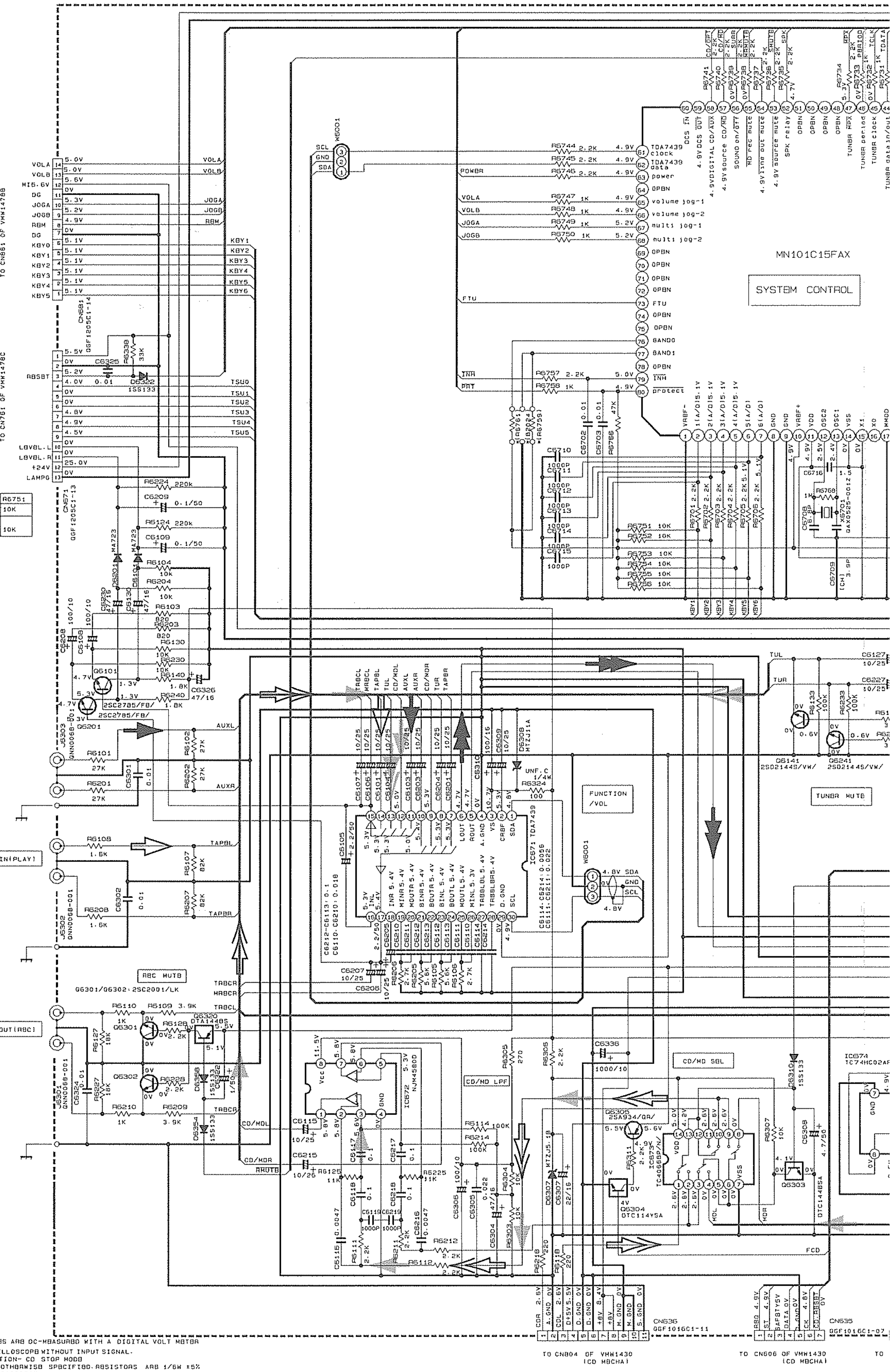
NOTES 1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL. CONDITION- CD STOP MODE

2. UNLESS OTHERWISE SPECIFIED. RESISTORS ARE 1/6W ± 5% CARBONRESISTOR.

ALLRESISTANCE VALUES ARE IN OHM(Ω).
ALLCAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
ALL CAPACITANCE VALUES ARE IN μ F(P=pF).
ALLINDUCTANCE VALUES ARE IN μ H(m=mH).
ALL E. CAPACITORS ARESHOWN IN THE FORM RESET OF INH CAPACITANCE (μF)/RATEDVOLTAGE(V).


VMW1478B
MASTER VOLUME
QSW0500-001
JS801
GP1U281X
IC801
REMOCON
DATA
VCC
GND
TO CN681 OF VMW1477A
CN881
VOLA 5.0V
VOLB 5.0V
MI5.6V 5.6V
DG 0V
JOGA 5.3V
JOGB 5.2V
REM 4.9V
DG 0V
KEY1 5.1V
KEY2 5.1V
KEY3 5.1V
KEY4 5.1V
KEY5 5.1V
5.1V
KEY6
D8001 1SS133
R8033
R8034 10K
C8001 0.01
C8002 0.01
C8003 100/10
C8004 0.001
AUX
TAPE
REPEAT
LISTENING
BEST HIT
REC PAUSE
REC
CD
BASS
SOUND
POWER
TUNER TEST
(B3014)
(B3013)
CD3
CD2
CD1
FM/AM
STNBY
SOUND
BASS
MDIN
REC
DIGITAL
CD1G
CD10
CD3G
CD30
CD2G
CD20
LED1
LED2
LED3
LED4
LED5
LED6
LED8
LED9
LED10
LED11
LED12
LED13
CN781
CN871
DIGITAL RED
SLR-342VC
DTC114ESA
ON/GREEN,RED STANDBY/RED
SPR-325MVW/L/-T
D8007
C8005 100/10
R8053 5.6K
Q8013 2SD2144S/VW/
2SA1175/FB/
GREEN
ORENGE
TLOG116
D8008
D8009
D8010
D8011 1SS133
W8002
BLUE (FOR JOG)
D7006 1SS133
SBLU1B10CXM
D7001
Q7001 DTC114ESA
Q7002 DTC114ESA
R7002 1K
R7003 200
R7004 220
C7008 100/10
BD.DIM
TSU0
TSU4
TSU5
LED7
WB
VMW1478C
JOGA
JOGB
5V
DG
KEY6
CLOCK/TIMER
EDIT
MD
TITLE
DSP/CHARA
RANDOM/PROGRAM
CANCEL
SET
ENTER
JOG
JS851
QSW0469-001
D8501 1SS133
R8516 10K
R8517 10K
C8501 0.01
C8502 0.01
VMW1478A
F
G
H
I
J

Input circuit section for J and U series version

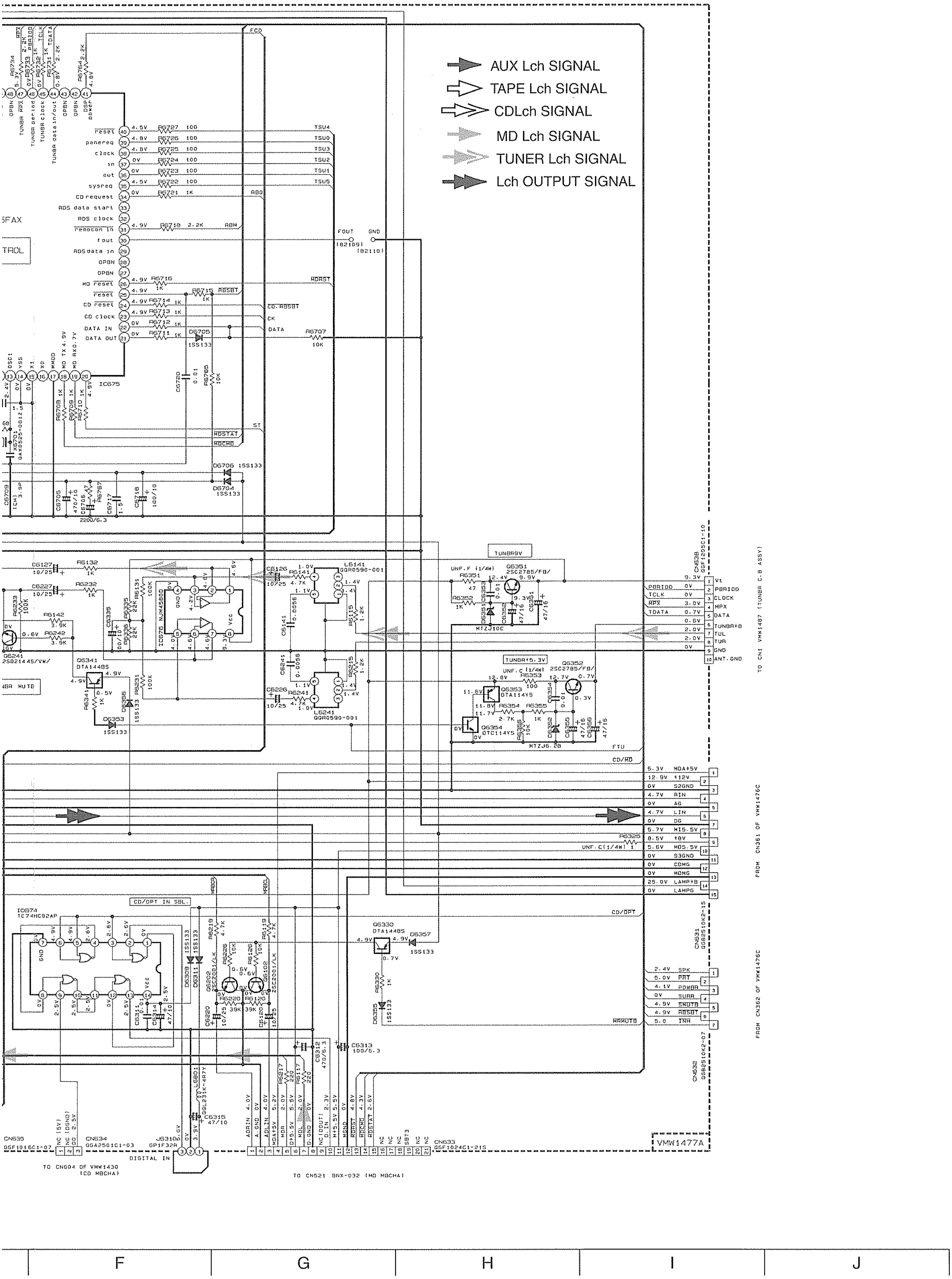

MN101C15FAX
SYSTEM CONTROL
FUNCTION /VOL
TDA7439
TUNER MUTE
CD/MD SEL
CD/MD LPF
REC MUTE
AUX
TAPE IN(PLAY)
TAPE OUT(REC)
TO CN861 OF VMH1478
TO CN761 OF VMH1478
TO CN804 OF VMH1430 (CD MECHA)
TO CN606 OF VMH1430 (CD MECHA)
CN636 QGF1016C1-11
CN635 QGF1016C1-07
IC672 NJM4580D
IC674 TC74HC02AF
Q6301/Q6302: 2SC2001/LK
W6001
1
2
3
4
5
6
7
A
B
C
D
E

*MARK

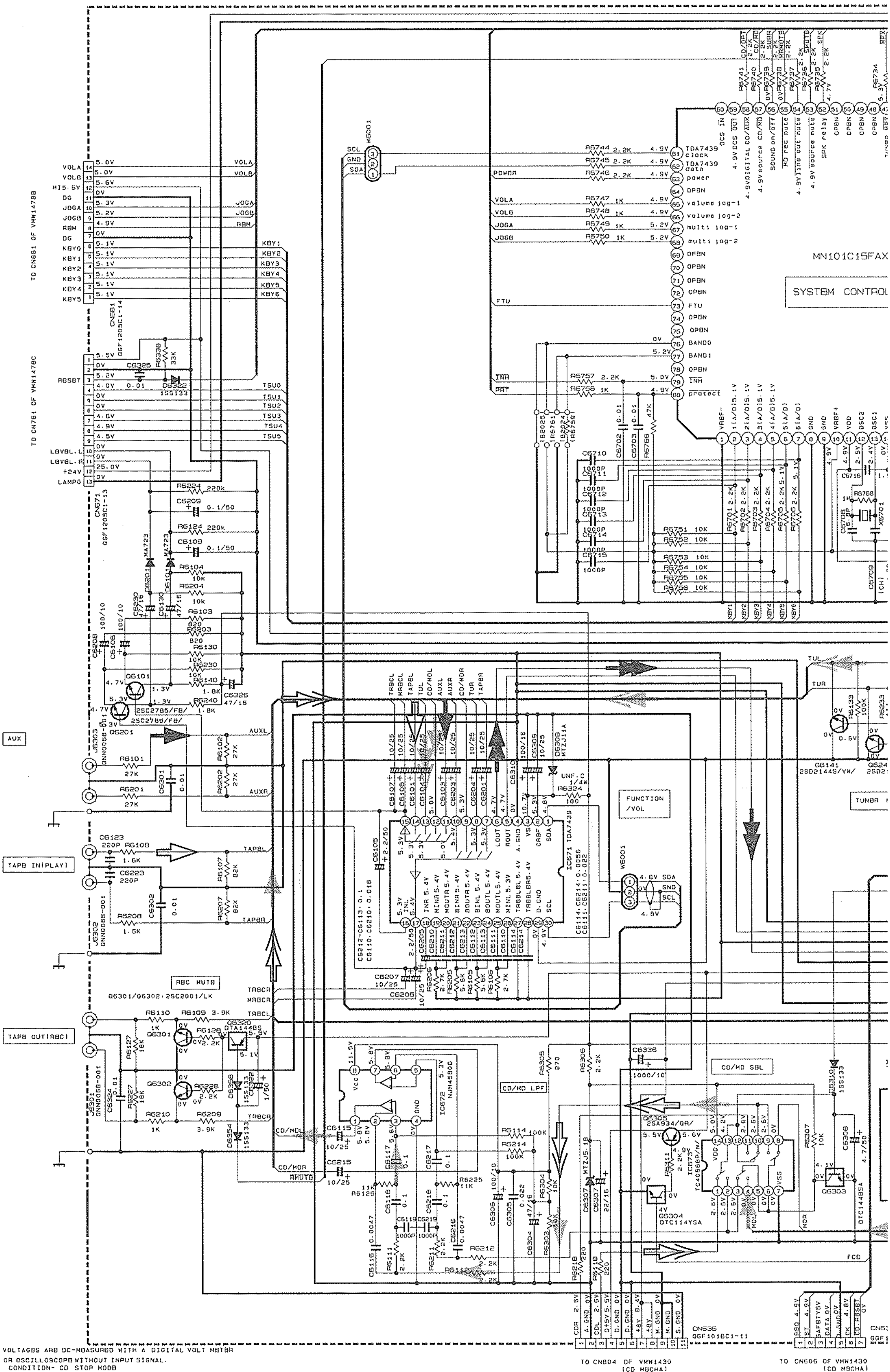
	B2024	R6759	R6751
MD70(J)	NONE	10K	10K
MD70 (U/UB/UT/US)	SHORT	NONE	10K

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION- CD STOP MODE
2. UNLESS OTHERWISE SPECIFIED, RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).

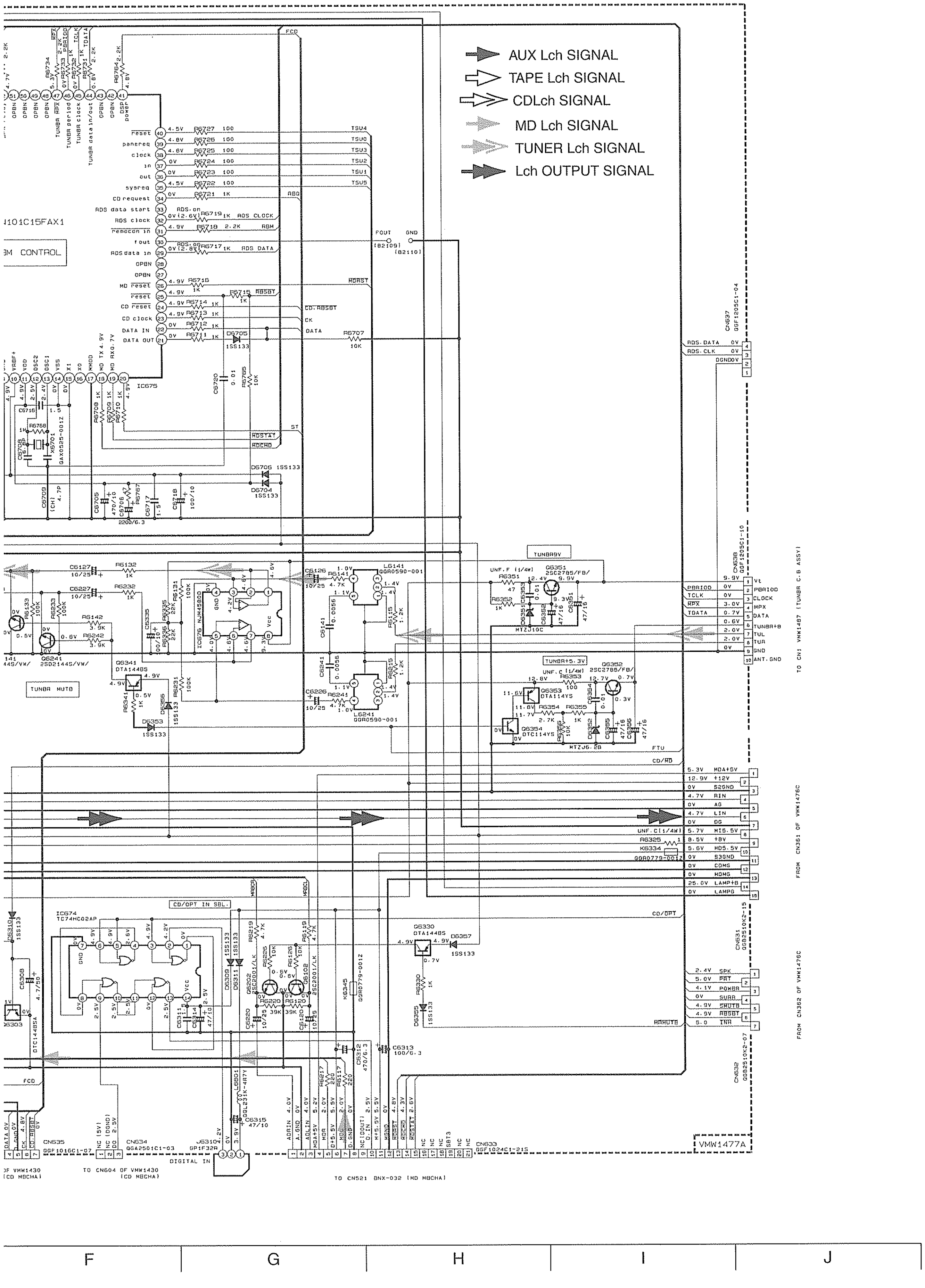

AUX Lch SIGNAL
TAPE Lch SIGNAL
CDLch SIGNAL
MD Lch SIGNAL
TUNER Lch SIGNAL
Lch OUTPUT SIGNAL
IC675
IC676 NJM4580D
IC674 TC74HC02AP
CD/OPT IN SBL.
TUNBR9V
TUNBR+5.3V
FOUT (B2109)
GND (B2110)
CN638 QGF1205C1-10
1 Vt
2 PBRIOD
3 CLOCK
4 MPX
5 DATA
6 TUNBR+B
7 TUL
8 TUR
9 GND
10 ANT.GND
TO CN1 VMW1487 (TUNBR C.B ASSY)
5.3V MDA+5V
12.9V +12V
0V S2GND
4.7V RIN
0V AG
4.7V LIN
0V DG
5.7V M15.5V
8.5V +8V
5.6V MD5.5V
0V S3GND
0V CDMG
0V MDMG
25.0V LAMP+B
0V LAMPG
CN631 QGB2510K2-15
FROM CN361 OF VMW1476C
2.4V SPK
5.0V PRT
4.1V POWBR
0V SURR
4.9V SMUTB
4.9V RBSBT
5.0 INH
CN632 QGB2510K2-07
FROM CN362 OF VMW1476C
CN635 QGF1016C1-07
CN634 QGA2501C1-03
J6310B GP1F32R
DIGITAL IN
TO CN604 OF VMW1430 (CD MBCHA)
CN633 QGF1024C1-21S
TO CN521 BNX-032 (MD MBCHA)
VMW1477A
F
G
H
I
J

Input circuit section for R series version

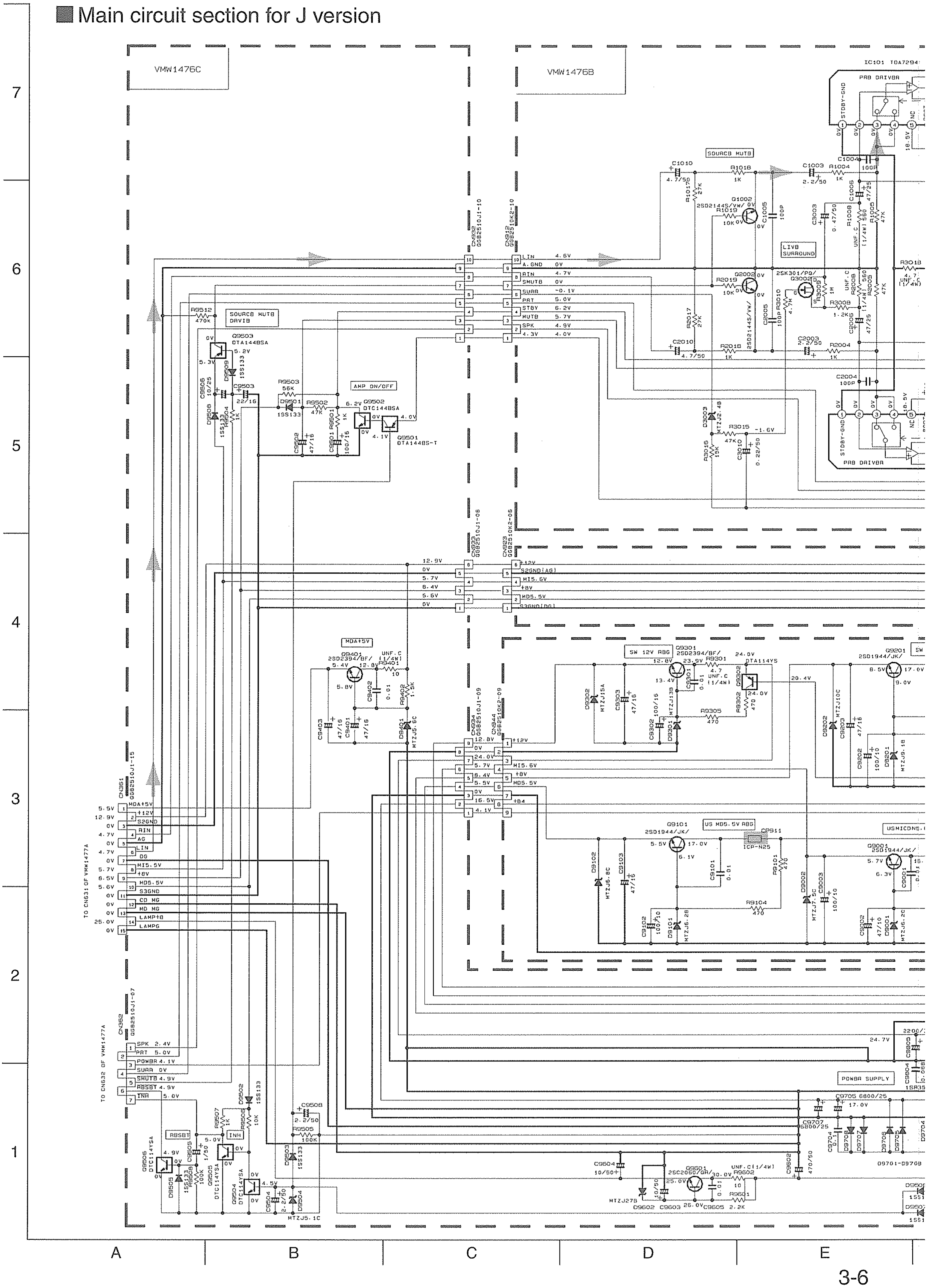

MN101C15FAX
SYSTEM CONTROL
IC671 TDA7439
FUNCTION /VOL
AUX
TAPE IN(PLAY)
TAPE OUT(REC)
REC MUTE
CD/MD LPF
CD/MD SEL
TUNER
IC672 NJM4580D
IC673 TC4066BP/N/
TO CN551 OF VMH1478B
TO CN761 OF VMH1478C
CN581 QGF1205C1-14
CN671 QGF1205C1-13
CN536 QGF1016C1-11
TO CN804 OF VMH1430 (CD MECHA)
TO CN606 OF VMH1430 (CD MECHA)
W5001
J5303
J6302
J6301

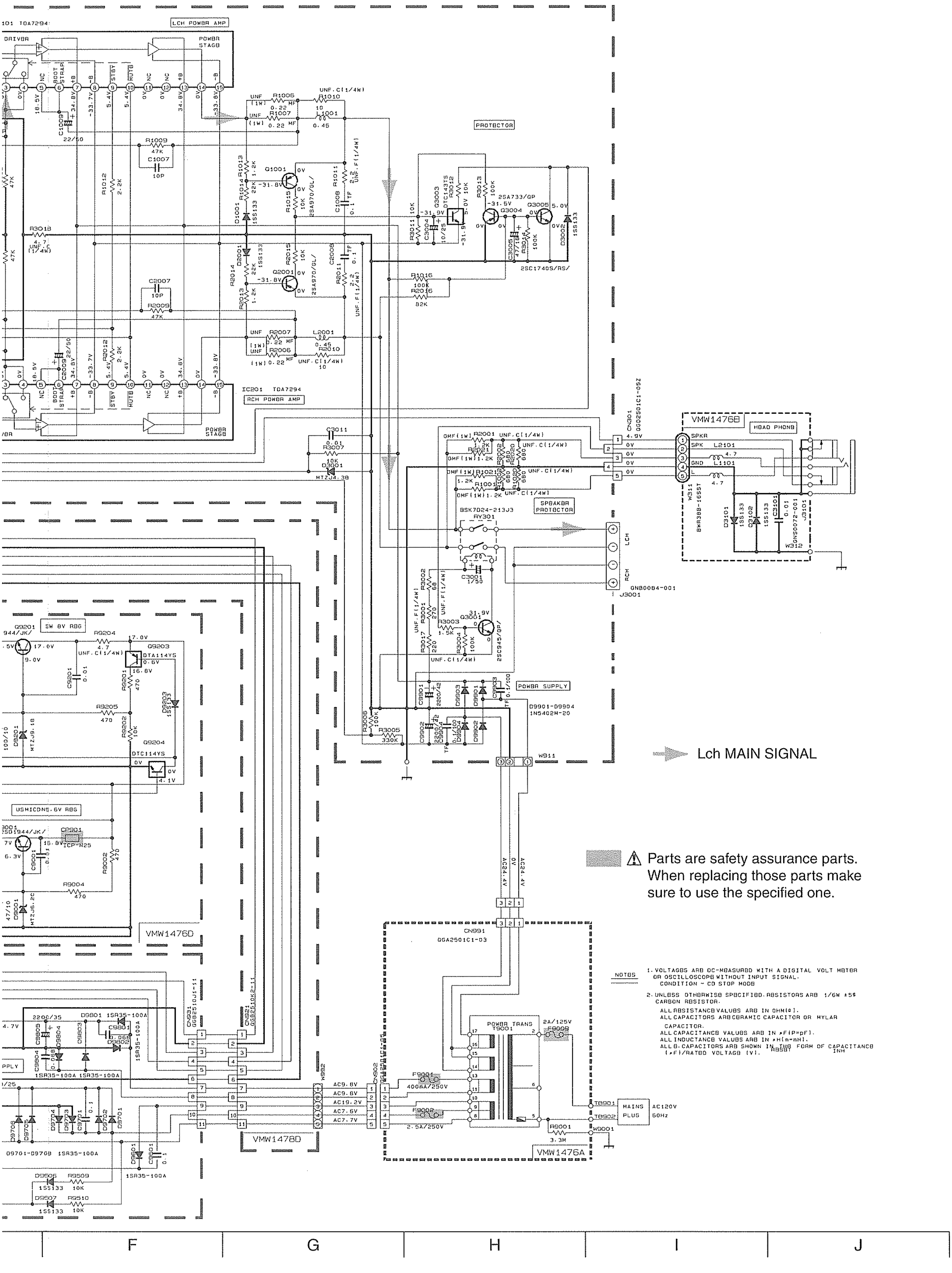
NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION- CD STOP MODE
2. UNLESS OTHERWISE SPECIFIED. RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).


AUX Lch SIGNAL
TAPE Lch SIGNAL
CDLch SIGNAL
MD Lch SIGNAL
TUNER Lch SIGNAL
Lch OUTPUT SIGNAL
IC675
IC676 NJM4580D
IC674 TC74HC02AP
CD/OPT IN SBL.
TUNBR MUTB
TUNBR9V
TUNBR+5.3V
DIGITAL IN
CN637 QGF1205C1-04
CN638 QGF1205C1-10
TO CN1 VMW1487 (TUNER C.B ASSY)
FROM CN361 OF VMW1476C
FROM CN362 OF VMW1476C
CN631 QGB2510K2-15
CN632 QGB2510K2-07
CN633 QGF1024C1-21S
CN635 QGF1016C1-07
CN634 QGA2501C1-03
J6310 QP1F32R
TO CN604 OF VMW1430 (CD MBCHA)
TO CN521 BNX-032 (MD MBCHA)
VMW1477A
F
G
H
I
J

Main circuit section for J version


VMW1476C
VMW1476B
IC101 TDA7294
PRE DRIVER
SOURCE MUTE
SOURCE MUTE DRIVE
AMP ON/OFF
LIVE SURROUND
MDA+5V
SW 12V REG
US MD5.5V REG
USMICON5
POWER SUPPLY
RESET
INH
CN361
CN362
CN932
CN912
CN933
CN923
CN934
CN944
TO CN631 OF VMW1477A
TO CN632 OF VMW1477A
LIN
A.GND
RIN
SMUTE
SURR
PRT
STBY
MUTE
SPK
+12V
S2GND(AG)
MI5.6V
+8V
MD5.5V
S3GND(DG)
MDA+5V
S2GND
AG
DG
MI5.5V
S3GND
CD MG
MD MG
LAMP+B
LAMPG
POWER
SHUTE
RESET
INH
+B4
Q1002
Q2002
Q3002
Q9101
Q9201
Q9301
Q9302
Q9401
Q9501
Q9502
Q9503
Q9504
Q9505
Q9506
Q9601
Q9001
D9701-D9708
7
6
5
4
3
2
1
A
B
C
D
E


LCH POWER AMP
DRIVER
POWER STAGE
IC101 TDA7294
IC201 TDA7294
RCH POWER AMP
PROTECTOR
SPEAKER PROTECTOR
POWER SUPPLY
VMW1476B
HEAD PHONE
VMW1476D
VMW1478D
VMW1476A
POWER TRANS T9001
MAINS PLUG
AC120V 60Hz
F9001 400mA/250V
F9002 2.5A/250V
F9003 2A/125V
CN301 QGD2501C1-05Z
CN991 QGA2501C1-03
J3001 QNB0084-001
RY301 BSK7024-213J3
SW 8V REG
USMICON5.6V REG
Lch
Rch
F
G
H
I
J

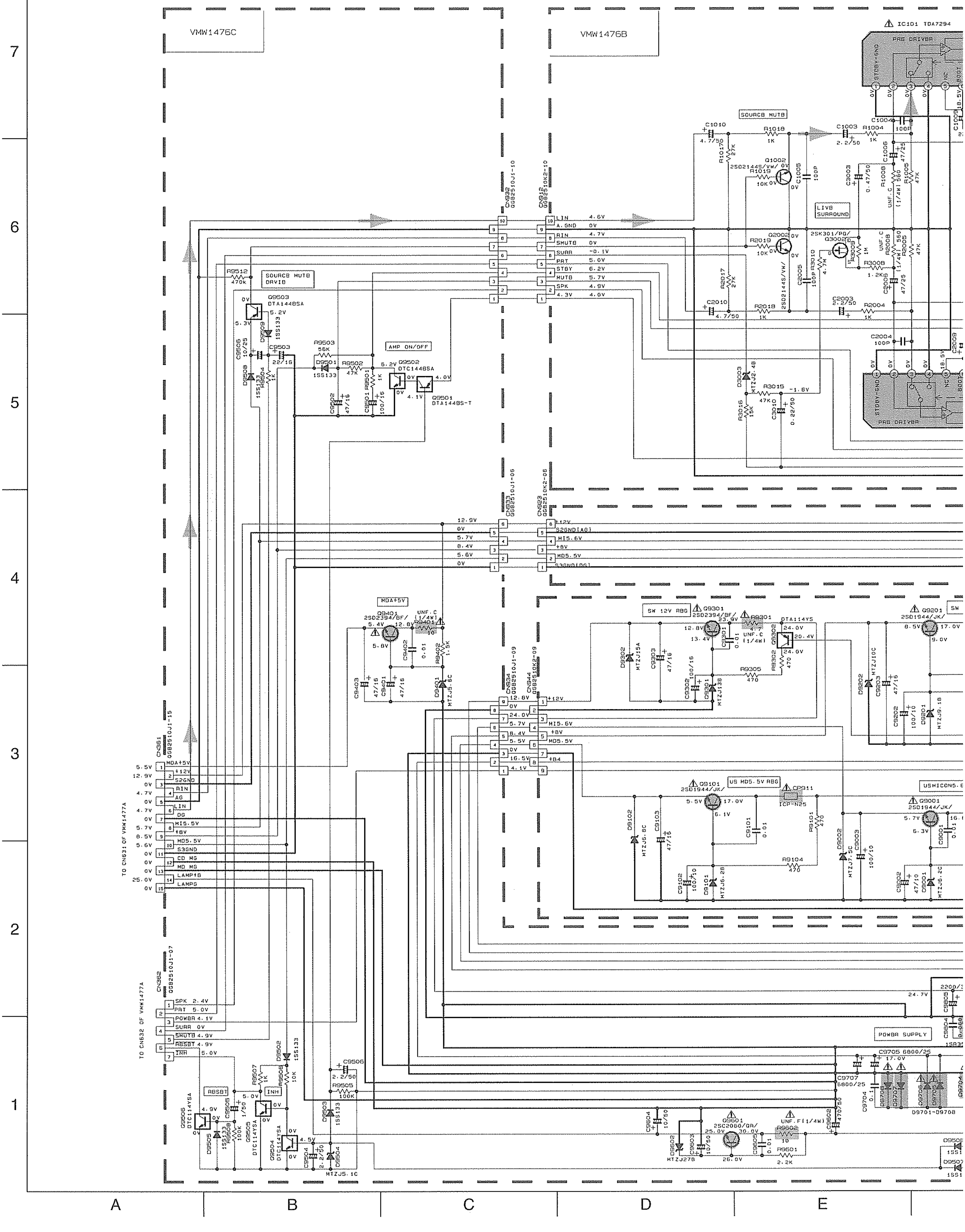
Lch MAIN SIGNAL

▨ ⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

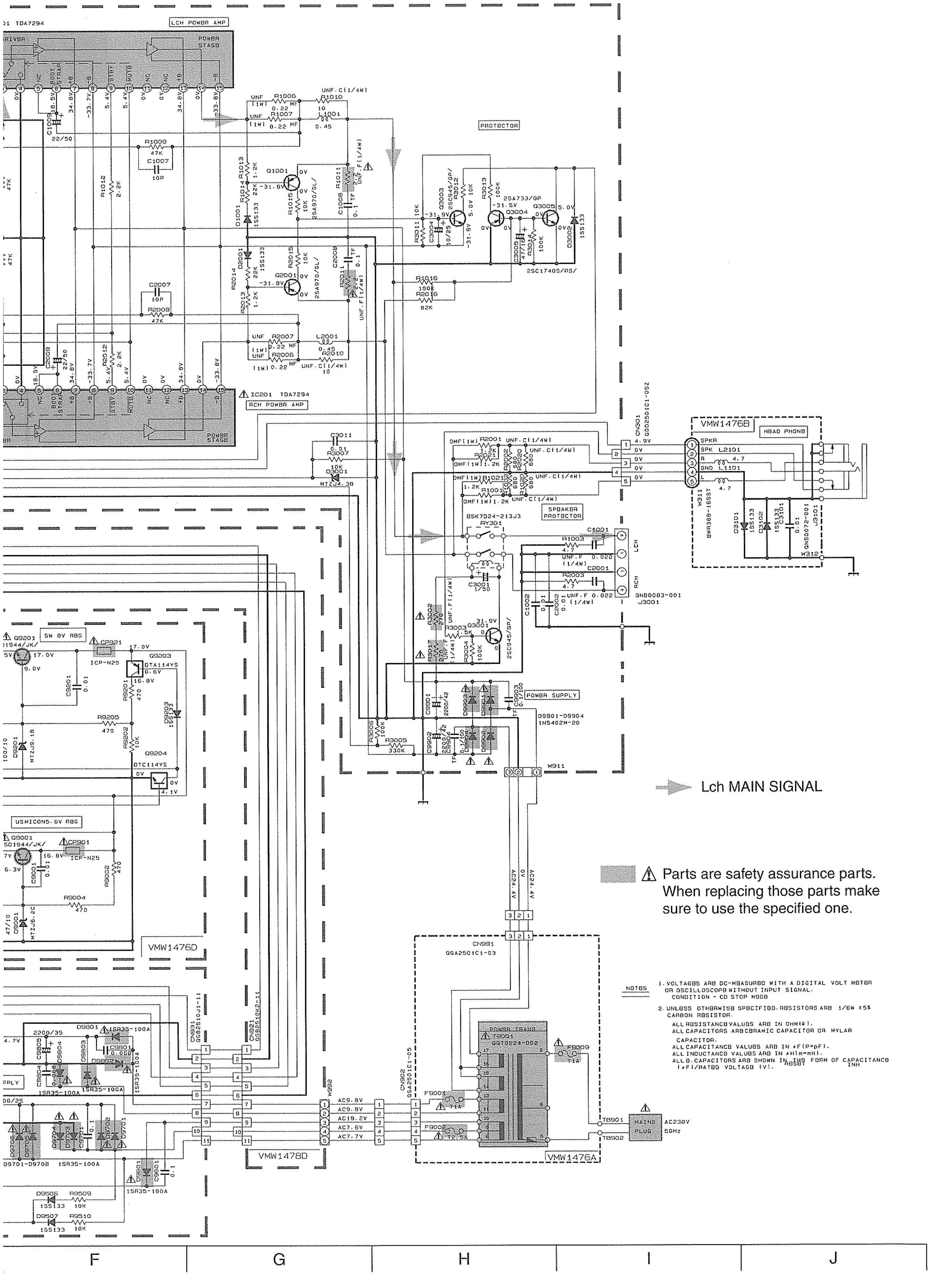
NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION ~ CD STOP MODE
2. UNLESS OTHERWISE SPECIFIED. RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).

Main circuit section for R series version



VMW1476C
VMW1476B
IC101 TDA7294
PRE DRIVER
STBY-GND
SOURCE MUTE
LIVE SURROUND
CN932 QGB2510J1-10
CN912 QGB2510K2-10
LIN 4.6V
A.GND 0V
RIN 4.7V
SMUTE 0V
SURR -0.1V
PRT 5.0V
STBY 6.2V
MUTE 5.7V
SPK 4.9V
4.3V 4.6V
Q1002 2SD2144S/VW/
Q2002 2SD2144S/VW/
2SK301/PQ/ Q3002
SOURCE MUTE DRIVE
Q9503 DTA144ESA
AMP ON/OFF
Q9502 DTC144ESA
Q9501 DTA144ES-T
CN933 QGB2510J1-06
CN923 QGB2510K2-06
+12V
S2GND(AG)
MI5.6V
+8V
MD5.5V
S3GND(DG)
MDA+5V
Q9401 2SD2394/EF/
SW 12V REG
Q9301 2SD2394/EF/
DTA114YS
Q9201 2SD1944/JK/
CN934 QGB2510J1-09
CN944 QGB2510K2-09
+B4
US MD5.5V REG
Q9101 2SD1944/JK/
CP911 ICP-N25
USMICON5.6V
Q9001 2SD1944/JK/
CN951 QGB2510J1-15
TO CN631 OF VMW1477A
LAMP+B
LAMPS
CD MG
MD MG
CN952 QGB2510J1-07
TO CN632 OF VMW1477A
SPK 2.4V
PRT 5.0V
POWER 4.1V
SURR 0V
SMUTE 4.9V
RESET 4.9V
INH 5.0V
RESET
INH
Q9506 DTC114YSA
Q9505 DTC114YSA
Q9504 DTC114YSA
POWER SUPPLY
C9705 6800/25
C9707 6800/25
D9701-D9708
Q9601 2SC2060/QR/
UNF.F(1/4W)
UNF.C (1/4W)
7
6
5
4
3
2
1
A
B
C
D
E


TDA7294
LCH POWER AMP
DRIVER
POWER STAGE
PROTECTOR
IC201 TDA7294
RCH POWER AMP
Q1001
Q2001
Q3003
Q3004
Q3005
2SA970/GL/
2SC945/QP/
2SA733/QP
2SC1740S/RS/
CN301
QGB2501C1-05Z
VMW1476B
HEAD PHONE
SPKR
SPK
GND
W311
W312
J3101
QNS0072-001
SPEAKER PROTECTOR
BSK7D24-213J3
RY301
LCH
RCH
QNB0083-001
J3001
POWER SUPPLY
D9901-D9904
1N5402M-20
W911
SW 8V REG
Q9201
Q9203
DTA114YS
Q9204
DTC114YS
CP921
ICP-N25
USMICON5.6V REG
Q9001
CP901
VMW1476D
CN931
QGB2510J1-11
CN921
QGB2510K2-11
1SR35-100A
1SS133
D9701-D9708
VMW1478D
W992
CN902
QGA2501C1-05
AC9.8V
AC19.2V
AC7.6V
AC7.7V
AC24.4V
CN991
QGA2501C1-03
POWER TRANS
QQT0224-002
F9001
F9002
F9009
T1A
T1.5A
TB901
TB902
MAINS PLUG
AC230V
50Hz
VMW1476A
F
G
H
I
J

Lch MAIN SIGNAL

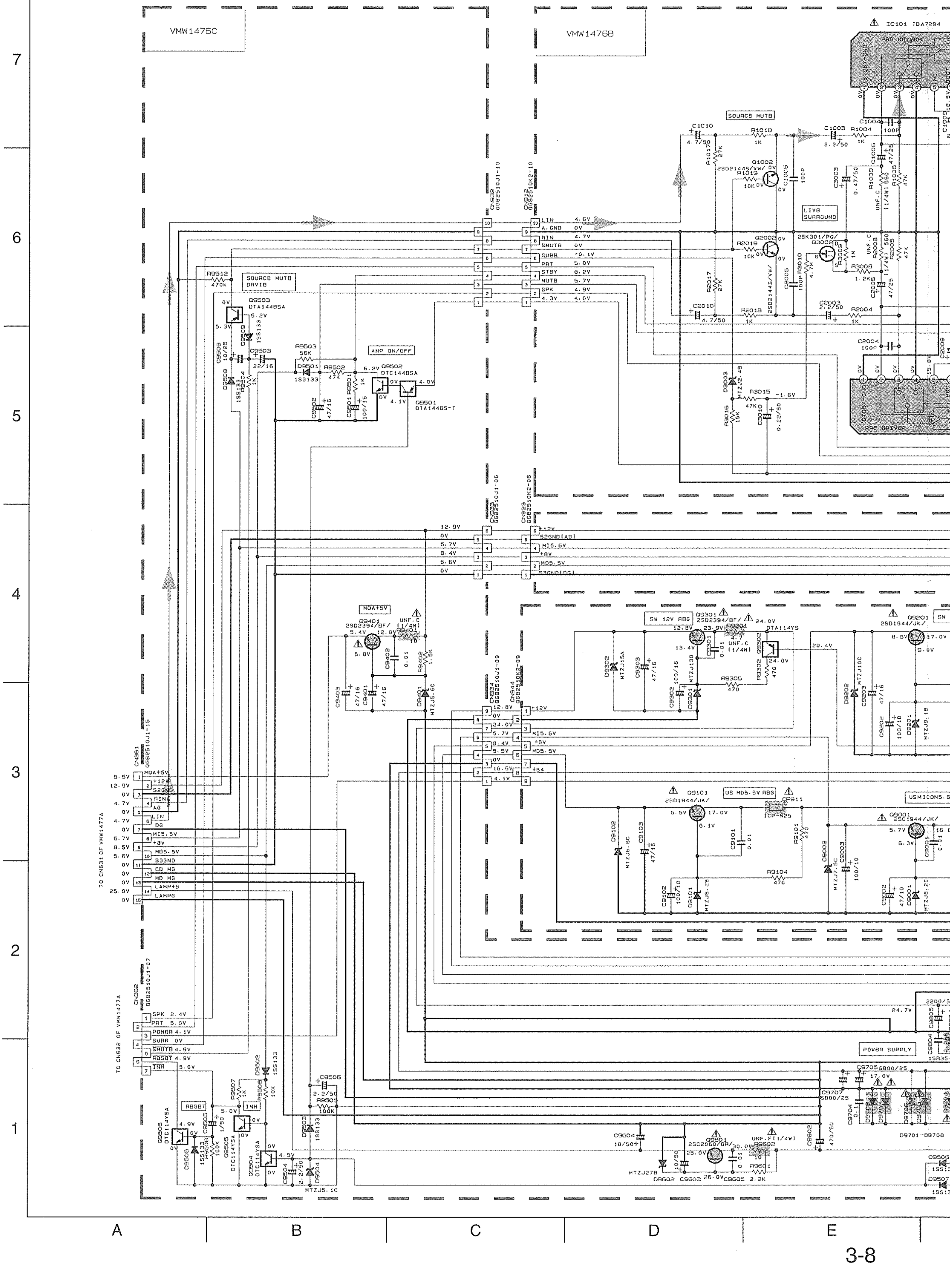
▨ ⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

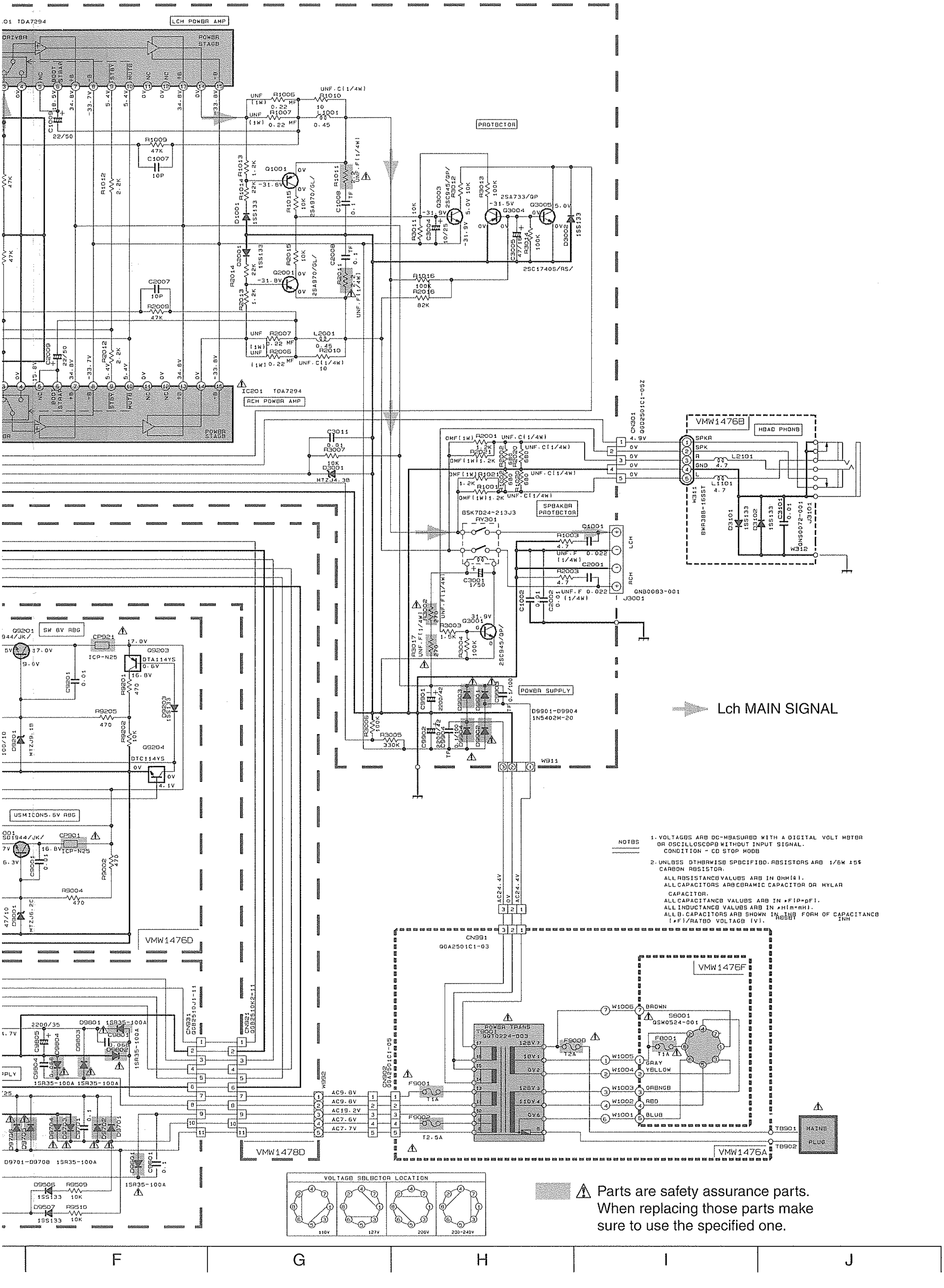
NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
CONDITION - CD STOP MODE

2. UNLESS OTHERWISE SPECIFIED. RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
ALL CAPACITANCE VALUES ARE IN µF(P=pF).
ALL INDUCTANCE VALUES ARE IN µH(m=mH).
ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (µF)/RATED VOLTAGE (V).

Main circuit section for U series version


VMW1476C
VMW1476B
IC101 TDA7294
PRE DRIVER
SOURCE MUTE
LIVE SURROUND
CN932 GGB2510J1-10
CN912 GGB2510K2-10
LIN 4.6V
A.GND 0V
RIN 4.7V
SMUTE 0V
SURR -0.1V
PRT 5.0V
STBY 6.2V
MUTE 5.7V
SPK 4.9V
4.3V 4.0V
Q1002 2SD2144S/VW/
Q2002 2SD2144S/VW/
Q3002 2SK301/PQ/
R9512 470K
SOURCE MUTE DRIVE
Q9503 DTA144ESA
AMP ON/OFF
Q9502 DTC144ESA
Q9501 DTA144ES-T
CN933 GGB2510J1-06
CN923 GGB2510K2-06
+12V
S2GND(AG)
MI5.6V
+8V
MD5.5V
S3GND(DG)
MDA+5V
Q9401 2SD2394/EF/
SW 12V REG
Q9301 2SD2394/EF/
Q9302 DTA114YS
Q9201 2SD1944/JK/
CN934 GGB2510J1-09
CN944 GGB2510K2-09
+B4
US MD5.5V REG
Q9101 2SD1944/JK/
CP911 ICP-N25
USMICON5.6
Q9001 2SD1944/JK/
CN361 GGB2510J1-15
TO CN631 OF VMK1477A
MDA+5V
+12V
S2GND
RIN
AG
LIN
DG
MI5.5V
+8V
MD5.5V
S3GND
CD MG
MD MG
LAMP+B
LAMPG
CN362 GGB2510J1-07
TO CN632 OF VMK1477A
SPK 2.4V
PRT 5.0V
POWER 4.1V
SURR 0V
SMUTE 4.9V
RESET 4.9V
INH 5.0V
RESET
INH
Q9506 DTC114YSA
Q9505 DTC114YSA
Q9504 DTC114YSA
POWER SUPPLY
Q9601 2SC2060/QR/
D9701-D9708
MTZJ27B
7
6
5
4
3
2
1
A
B
C
D
E


LCH POWER AMP
TDA7294
DRIVER
POWER STAGE
IC201 TDA7294
RCH POWER AMP
PROTECTOR
R1005 0.22
R1007 0.22
R1010 10
L1001 0.45
R1009 47K
C1007 10P
R1012 2.2K
Q1001
Q2001
2SA970/GL/
Q3003 2SC945/QP/
Q3004 2SA733/QP
Q3005
2SC1740S/RS/
D3002 1SS133
R1016 100K
R2016 82K
C2007 10P
R2009 47K
R2007 0.22
R2006 0.22
L2001 0.45
R2010 10
C3011 0.01
R3007 10K
D3001 MTZJ4.3B
CN301 QGB2501C1-05Z
VMW1476B
HEAD PHONE
SPKR
SPK
GND
L2101 4.7
L1101 4.7
W311
BMR388-165ST
D3101 1SS133
D3102 1SS133
C3101 0.01
J3101
QNS0072-001
W312
SPEAKER PROTECTOR
BSK7D24-213J3
RY301
R1003 4.7
C1001 0.022
R2003 4.7
C2001 0.022
LCH
RCH
QNB0083-001
J3001
C1002 0.01
C2002 0.01
R3002 270
R3017 270
R3003 1.5K
R3004 100K
Q3001 2SC945/QP/
C3001 1/50
POWER SUPPLY
D9901-D9904 1N5402M-20
C9901 2200/42
C9902 2200/42
R3006 160K
R3005 330K
W911
Q9201
SW 8V REG
CP921 ICP-N25
Q9203 DTA114YS
Q9204 DTC114YS
R9201 470
R9202 10K
R9205 470
D9203 1SS133
D9201 MTZJ9.1B
USMICON5.6V REG
CP901 ICP-N25
R9002 470
R9004 470
D9001 MTZJ6.2C
VMW1476D
CN931 QGB2510J1-11
CN921 QGB2510K2-11
D9801 1SR35-100A
D9701-D9708 1SR35-100A
D9506 R9509 10K
D9507 R9510 10K
1SS133
W992
AC9.8V
AC9.8V
AC19.2V
AC7.6V
AC7.7V
VMW1478D
CN902 QGA2501C1-05
F9001 T1A
F9002 T2.5A
CN991 QGA2501C1-03
AC24.4V
0V
AC24.4V
POWER TRANS
T9001 QQT0224-003
12V7
16V1
0V2
12V3
110V4
0V6
F9003 T2A
VMW1476F
S6001 QSW0524-001
F6001 T1A
W1006 BROWN
W1005 GRAY
W1004 YELLOW
W1003 ORANGE
W1002 RED
W1001 BLUE
TB901
TB902
MAINS PLUG
VMW1476A
VOLTAGE SELECTOR LOCATION
110V
127V
220V
230-240V
F
G
H
I
J

Lch MAIN SIGNAL

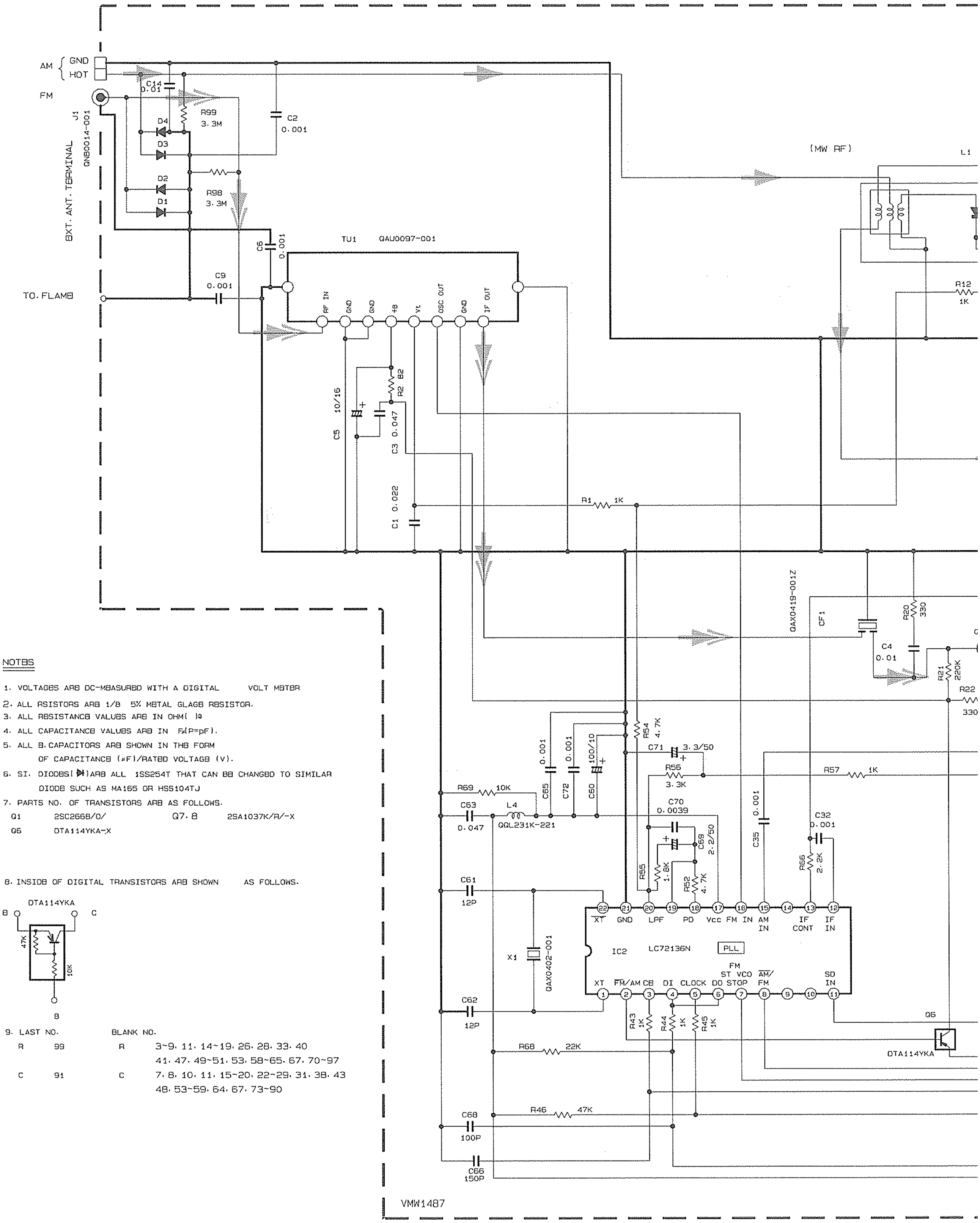
NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER
OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
CONDITION - CD STOP MODE

2. UNLESS OTHERWISE SPECIFIED, RESISTORS ARE 1/6W ±5%
CARBON RESISTOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR
CAPACITOR.
ALL CAPACITANCE VALUES ARE IN µF(P=pF).
ALL INDUCTANCE VALUES ARE IN µH(m=mH).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE
(µF)/RATED VOLTAGE (V).

⚠ Parts are safety assurance parts.
When replacing those parts make
sure to use the specified one.

Tuner section for J version


AM GND
HOT
FM
J1 QNB0014-001
EXT. ANT. TERMINAL
C14 0.01
R99 3.3M
D4
D3
D2
D1
R98 3.3M
C2 0.001
C6 0.001
TU1 QAU0097-001
RF IN
GND
GND
+B
Vt
OSC OUT
GND
IF OUT
TO. FLAME
C9 0.001
C5 10/16
R2 82
C3 0.047
C1 0.022
R1 1K
(MW RF)
L1
R12 1K
QAX0419-001Z
CF1
R20 330
C4 0.01
R21 220K
R22 330
R54 4.7K
C65 0.001
C72 0.001
C60 100/10
C71 3.3/50
R56 3.3K
R57 1K
R69 10K
C63 0.047
L4 QQL231K-221
C70 0.0039
C69 2.2/50
R55 1.8K
R52 4.7K
C35 0.001
C32 0.001
R66 2.2K
C61 12P
X1 QAX0402-001
IC2 LC72136N
PLL
XT
GND
LPF
PD
Vcc
FM IN
AM IN
IF CONT
IF IN
XT
FM/AM
CE
DI
CLOCK
DO
ST STOP
FM VCO
AM/FM
SD IN
C62 12P
R43 1K
R44 1K
R45 1K
R68 22K
Q6 DTA114YKA
C68 100P
R46 47K
C66 150P
VMW1487
7
6
5
4
3
2
1
A
B
C
D
E

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER
2. ALL RSISTORS ARE 1/8 5% METAL GLAGE RESISTOR.
3. ALL RESISTANCE VALUES ARE IN OHM( )Ω
4. ALL CAPACITANCE VALUES ARE IN F⁄(P=pF).
5. ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
6. SI. DIODES(⯈|)ARE ALL 1SS254T THAT CAN BE CHANGED TO SIMILAR DIODE SUCH AS MA165 OR HSS104TJ
7. PARTS NO. OF TRANSISTORS ARE AS FOLLOWS.

Q1	2SC2668/O/	Q7. 8	2SA1037K/R/-X
Q6	DTA114YKA-X		

8. INSIDE OF DIGITAL TRANSISTORS ARE SHOWN AS FOLLOWS.

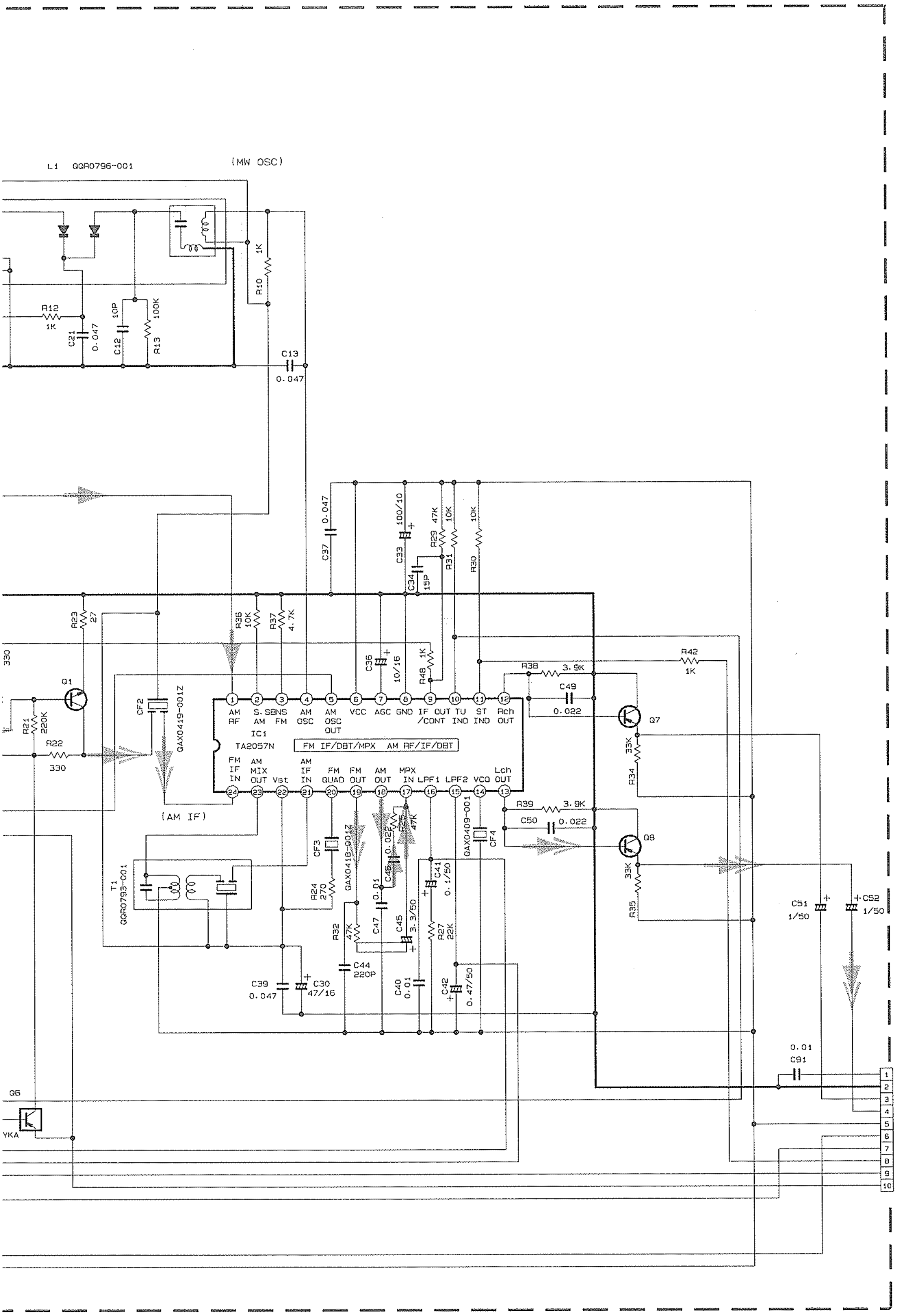
DTA114YKA
E
C
B
47K
10K

9. LAST NO. BLANK NO.

R	99	R	3~9. 11. 14~19. 26. 28. 33. 40 41. 47. 49~51. 53. 58~65. 67. 70~97
C	91	C	7. 8. 10. 11. 15~20. 22~29. 31. 38. 43 48. 53~59. 64. 67. 73~90

	CONDITION PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC1	FM NO SIGNAL	2.0	0.5	0	2.0	5.1	5.1	0	0	0.3	5.1	5.1	1.1	1.1	4.4	3.7	3.7	1.4	0	1.3	1.1	2.0	2.0	5.1	2.0
	FM 60dB STEREO	2.0	0.5	0	2.0	5.1	5.1	1.1	0	0.3	0	0	1.1	1.1	4.3	4.1	3.7	1.4	0	1.4	1.1	2.0	2.0	5.1	2.0
	AM NO SIGNAL	2.0	0.5	0	2.0	5.1	5.1	0	0	0.3	5.1	5.1	1.1	1.1	4.5	0.1	0	1.4	1.4	1.5	1.6	2.0	2.0	5.1	2.0
IC2	FM NO SIGNAL	2.4	0	0	1.1	5.0	1.1	3.7	3.7	0	0	5.1	0	0	0	0	2.6	5.1	1.0	1.0	3.7	0	2.7		

Tr No.	Q1		
PIN NAME	E	C	B
FM 87.5MHz	0	7.5	0.7
AM 520KHz	0	0	0


L1 QQR0796-001
(MW OSC)
R12 1K
C21 0.047
C12 10P
R13 100K
R10 1K
C13 0.047
C37 0.047
C33 100/10
C34 15P
R29 47K
R31 10K
R30 10K
R23 27
R36 10K
R37 4.7K
C36 10/16
R48 1K
R38 3.9K
C49 0.022
R42 1K
Q1
CF2 QAX0419-001Z
R21 220K
R22 330
330
AM RF
S.SENS AM
S.SENS FM
AM OSC
AM OSC OUT
VCC
AGC
GND
IF OUT /CONT
TU IND
ST IND
Rch OUT
IC1
TA2057N
FM IF/DBT/MPX AM RF/IF/DBT
FM IF IN
AM MIX OUT
Vst
AM IF IN
FM QUAD
FM OUT
AM OUT
MPX IN
LPF1
LPF2
VCO
Lch OUT
Q7
R34 33K
(AM IF)
R39 3.9K
C50 0.022
Q8
R35 33K
T1 QQR0793-001
CF3 QAX0418-001Z
R24 270
R32 47K
C46 0.022
C47 0.01
R25 47K
C45 3.3/50
C41 0.1/50
R27 22K
QAX0409-001
CF4
C39 0.047
C30 47/16
C44 220P
C40 0.01
C42 0.47/50
C51 1/50
C52 1/50
0.01
C91
QGF1205F1-10
CN1
ANT GND
GND
Rch
Lch
+B
DATA
MPX
CLOCK
PERIOD
Vt/FM+B
Q6
YKA

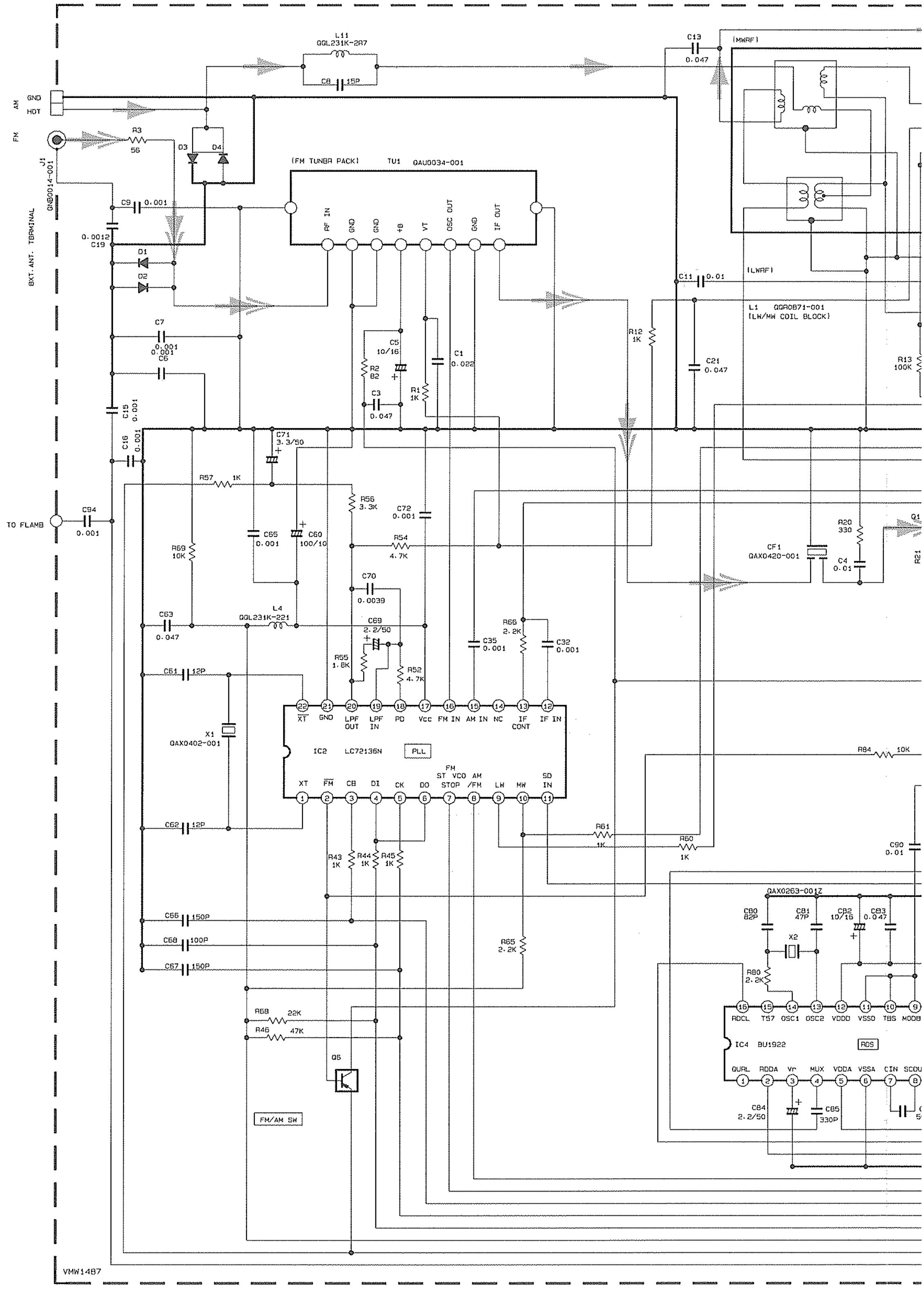
Q1			Q6			Q7			Q8		
E	C	B	E	C	B	E	C	B	E	C	B
0	7.5	0.7	8.8	8.8	0	1.6	0	1.1	1.6	0	1.1
0	0	0	8.8	0	8.7	1.6	0	1.1	1.6	0	1.1

➤ AM RADIO SIGNAL

➤➤ FM RADIO SIGNAL

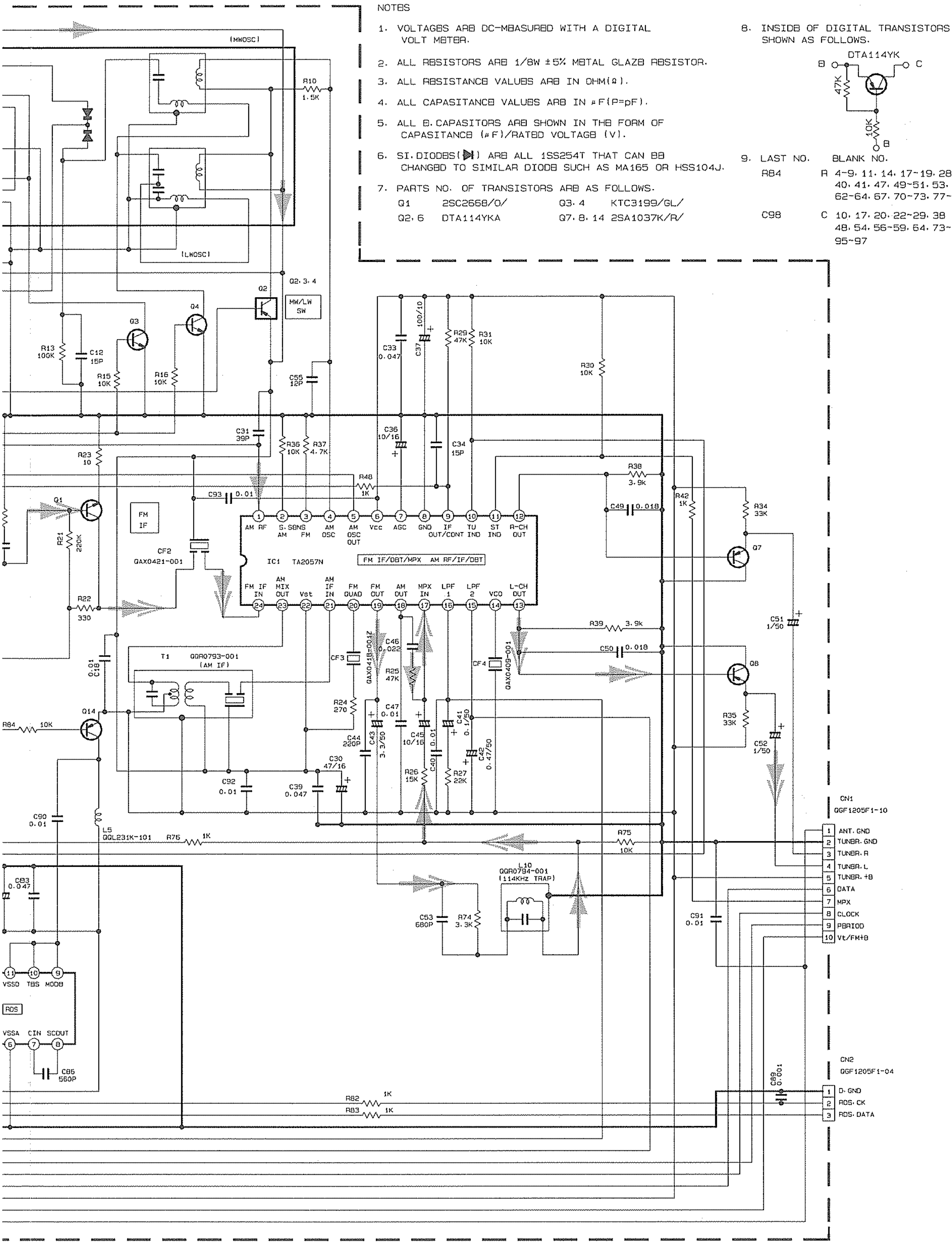
F	G	H	I	J

Tuner section for R series version


7
6
5
4
3
2
1
AM
GND
HOT
FM
J1
QNB0014-001
EXT. ANT. TERMINAL
L11
QQL231K-2R7
C8 15P
R3 56
D3
D4
C9 0.001
0.0012 C19
D1
D2
C7 0.001
0.001 C6
C15 0.001
C16 0.001
(FM TUNER PACK) TU1 QAU0034-001
RF IN
GND
GND
+B
VT
OSC OUT
GND
IF OUT
C5 10/16
R2 82
C3 0.047
R1 1K
C1 0.022
C71 3.3/50
R57 1K
R56 3.3K
C72 0.001
R54 4.7K
C65 0.001
C60 100/10
R69 10K
TO FLAMB
C94 0.001
C70 0.0039
C63 0.047
L4 QQL231K-221
C69 2.2/50
R55 1.8K
R52 4.7K
R66 2.2K
C35 0.001
C32 0.001
C61 12P
X1 QAX0402-001
C62 12P
XT
GND
LPF OUT
LPF IN
PD
Vcc
FM IN
AM IN
NC
IF CONT
IF IN
IC2 LC72136N
PLL
XT
FM
CE
DI
CK
DO
FM ST VCO STOP
AM /FM
LW
MW
SD IN
R43 1K
R44 1K
R45 1K
C66 150P
C68 100P
C67 150P
R65 2.2K
R68 22K
R46 47K
Q6
FM/AM SW
VMW1487
C13 0.047
(MWRF)
C11 0.01
(LWRF)
L1 QQR0871-001 (LW/MW COIL BLOCK)
R12 1K
C21 0.047
R13 100K
R20 330
CF1 QAX0420-001
C4 0.01
Q1
R84 10K
R61 1K
R60 1K
C90 0.01
QAX0263-001Z
C80 82P
C81 47P
C82 10/16
C83 0.047
X2
R80 2.2K
RDCL
T57
OSC1
OSC2
VDDD
VSSD
TBS
IC4 BU1922
RDS
QUAL
RDDA
Vr
MUX
VDDA
VSSA
CIN
C84 2.2/50
C85 330P

	CONDITION PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC1	FM NO SIGNAL	2.0	0.5	0	2.0	5.1	5.1	0	0	0.3	5.1	5.1	1.1	1.1	4.4	3.7	3.7	1.4	0	1.3	1.1	2.0	2.0	5.1	2.0
	FM 60dB STERE0	2.0	0.5	0	2.0	5.1	5.1	1.1	0	0.3	0	0	1.1	1.1	4.3	4.1	3.7	1.4	0	1.4	1.1	2.0	2.0	5.1	2.0
	AM NO SIGNAL	2.0	0.5	0	2.0	5.0	5.1	0	0	0.3	5.1	5.1	1.1	1.1	4.5	0.1	0	1.4	1.4	1.5	1.6	2.0	2.0	5.1	2.0
IC2	FM NO SIGNAL	2.4	0	0	5.1	5.0	5.1	3.7	3.7	2.0	3.8	5.1	0	0	0	0	2.6	5.1	1.0	1.0	3.7	0	2.7		
IC4	FM NO SIGNAL	2.0	2.5	2.5	2.5	5.0	0	2.5	2.5	0	0	0	5.0	2.4	2.4	2.5	2.5								

Tr NO.	
PIN NO.	E
FM 87.5MHz NO SIGNAL	C
AM 522KHz NO SIGNAL	C
Tr NO.	
PIN NO.	E
AM 522KHz NO SIGNAL	2.
AM 144KHz NO SIGNAL	2.


(MWOSC)
(LWOSC)
R10
1.5K
Q2, 3, 4
Q2
MW/LW SW
Q3
Q4
R13
100K
C12
15P
R15
10K
R16
10K
C55
12P
C33
0.047
C37
100/10
R29
47K
R31
10K
R30
10K
C31
39P
R36
10K
R37
4.7K
C36
10/16
C34
15P
R23
10
R48
1K
R38
3.9K
C93
0.01
C49
0.018
R42
1K
R34
33K
Q1
FM IF
CF2
GAX0421-001
R21
220K
IC1 TA2057N
FM IF/DET/MPX AM RF/IF/DET
AM RF
S.SENS AM FM
AM OSC
AM OSC OUT
Vcc
AGC
GND
IF OUT/CONT
TU IND
ST IND
R-CH OUT
FM IF IN
AM MIX OUT
Vst
AM IF IN
FM QUAD
FM OUT
AM OUT
MPX IN
LPF 1
LPF 2
VCO
L-CH OUT
Q7
R22
330
R39
3.9K
C51
1/50
C18
0.01
T1
QQR0793-001 (AM IF)
CF3
C46
0.022
GAX0418-001Z
R25
47K
CF4
GAX0409-001
C50
0.018
Q8
R24
270
C47
0.01
C41
0.1/50
R35
33K
Q14
R84
10K
C44
220P
C43
3.3/50
C45
10/16
C40
0.01
C42
0.47/50
C52
1/50
C30
47/16
R26
15K
R27
22K
C92
0.01
C39
0.047
CN1
QGF1205F1-10
C90
0.01
L5
QQL231K-101
R76
1K
R75
10K
1 ANT.GND
2 TUNER.GND
3 TUNER.R
4 TUNER.L
5 TUNER.+B
6 DATA
7 MPX
8 CLOCK
9 PERIOD
10 Vt/FM+B
C83
0.047
L10
QQR0794-001
(114KHz TRAP)
C53
680P
R74
3.3K
C91
0.01
11 VSSD
10 TBS
9 MODE
RDS
VSSA
7 CIN
8 SCOUT
6
C86
560P
CN2
QGF1205F1-04
C89
0.001
R82
1K
R83
1K
1 D.GND
2 RDS.CK
3 RDS.DATA

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER.

2. ALL RESISTORS ARE 1/8W ±5% METAL GLAZE RESISTOR.

3. ALL RESISTANCE VALUES ARE IN OHM(Ω).

4. ALL CAPASITANCE VALUES ARE IN μF(P=pF).

5. ALL E. CAPASITORS ARE SHOWN IN THE FORM OF CAPASITANCE (μF)/RATED VOLTAGE (V).

6. SI. DIODES(▶|) ARE ALL 1SS254T THAT CAN BE CHANGED TO SIMILAR DIODE SUCH AS MA165 OR HSS104J.

7. PARTS NO. OF TRANSISTORS ARE AS FOLLOWS.

Q1	2SC2668/O/	Q3, 4	KTC3199/GL/
Q2, 6	DTA114YKA	Q7, 8, 14	2SA1037K/R/

8. INSIDE OF DIGITAL TRANSISTORS ARE SHOWN AS FOLLOWS.

DTA114YK
B C 47K 10K E

9. LAST NO. BLANK NO.

LAST NO.	BLANK NO.
R84	R 4~9, 11, 14, 17~19, 28, 32, 33 40, 41, 47, 49~51, 53, 58, 59 62~64, 67, 70~73, 77~79, 81
C98	C 10, 17, 20, 22~29, 38 48, 54, 56~59, 64, 73~79, 87~89 95~97

.	Q1			Q6			Q7			Q8			Q14		
.	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
O SIGNAL	0	7.5	0.7	8.8	8.7	0	1.6	0	1.1	1.6	0	1.1	5.1	5.1	4.5
SIGNAL	0	0	0	8.8	0	8.7	1.6	0	1.1	1.6	0	1.1	5.1	0.1	8.7

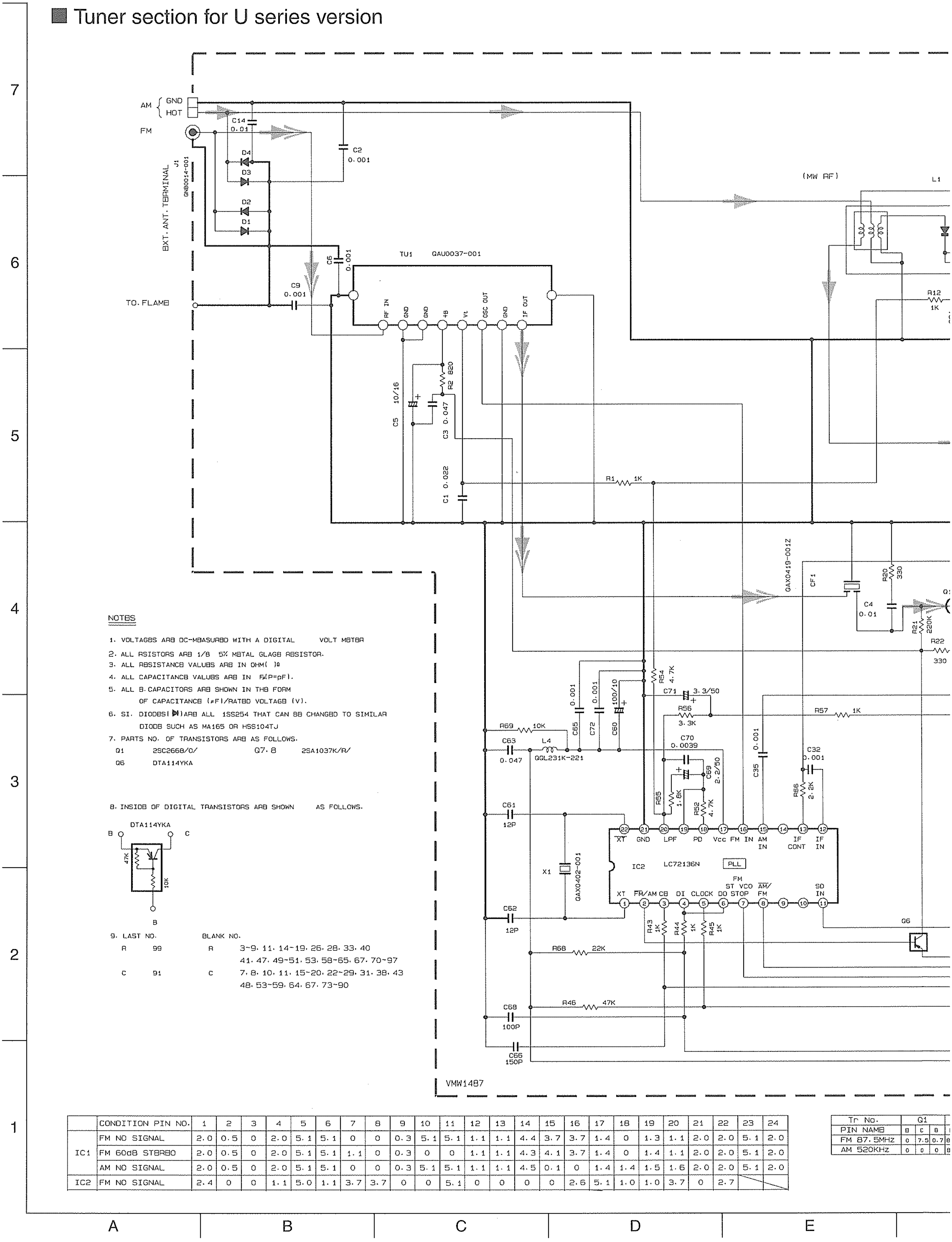
.	Q2			Q3			Q4		
.	E	C	B	E	C	B	E	C	B
SIGNAL	2.0	2.0	0.1	0	0	0.7	0	0	0.7
SIGNAL	2.0	2.0	2.0	0	0	0.1	0	0	0.1

⇒ AM RADIO SIGNAL

⇒ FM RADIO SIGNAL

F	G	H	I	J

Tuner section for U series version


AM GND
HOT
FM
EXT. ANT. TERMINAL J1 QNB0014-001
C14 0.01
D4
D3
D2
D1
C2 0.001
C6 0.001
TU1 QAU0037-001
RF IN
GND
GND
+B
Vt
OSC OUT
GND
IF OUT
TO. FLAME
C9 0.001
C5 10/16
C3 0.047
R2 820
C1 0.022
R1 1K
(MW RF)
L1
R12 1K
QAX0419-001Z
CF1
R20 330
C4 0.01
R21 220K
R22 330
Q1
R54 4.7K
C71 3.3/50
R56 3.3K
R57 1K
R69 10K
C65 0.001
C72 0.001
C60 100/10
C63 0.047
L4 QQL231K-221
C70 0.0039
C69 2.2/50
C35 0.001
C32 0.001
R66 2.2K
R55 1.8K
R52 4.7K
C61 12P
X1 QAX0402-001
IC2 LC72136N PLL
XT
GND
LPF
PD
Vcc
FM IN
AM IN
IF CONT
IF IN
FM/AM
CE
DI
CLOCK
DO
FM ST VCO STOP
AM/FM
SD IN
C62 12P
R43 1K
R44 1K
R45 1K
Q6
R68 22K
R46 47K
C68 100P
C66 150P
VMW1487
7
6
5
4
3
2
1
A
B
C
D
E

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER
2. ALL RSISTORS ARE 1/8 5% METAL GLAGE RESISTOR.
3. ALL RESISTANCE VALUES ARE IN OHM( )Ω
4. ALL CAPACITANCE VALUES ARE IN μF(P=pF).
5. ALL E.CAPACITORS ARE SHOWN IN THE FORM
   OF CAPACITANCE (μF)/RATED VOLTAGE (V).
6. SI. DIODES(▶|)ARE ALL 1SS254 THAT CAN BE CHANGED TO SIMILAR
   DIODE SUCH AS MA165 OR HSS104TJ
7. PARTS NO. OF TRANSISTORS ARE AS FOLLOWS.

Q1	2SC2668/O/	Q7, 8	2SA1037K/R/
Q6	DTA114YKA		

8. INSIDE OF DIGITAL TRANSISTORS ARE SHOWN AS FOLLOWS.

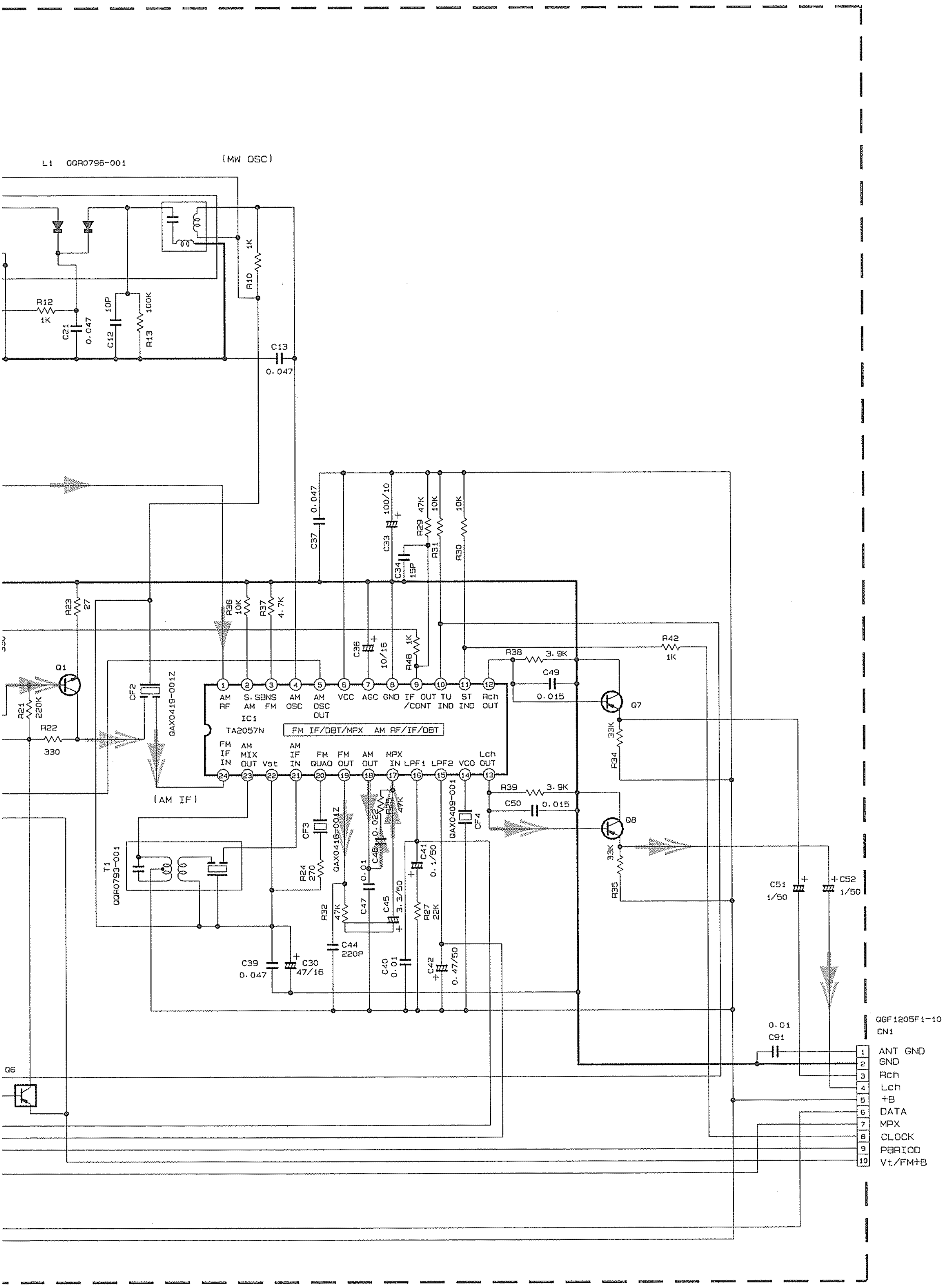
DTA114YKA
B C
47K 10K
B

9. LAST NO. BLANK NO.

LAST NO.		BLANK NO.	
R	99	R	3~9, 11, 14~19, 26, 28, 33, 40 41, 47, 49~51, 53, 58~65, 67, 70~97
C	91	C	7, 8, 10, 11, 15~20, 22~29, 31, 38, 43 48, 53~59, 64, 67, 73~90

	CONDITION PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC1	FM NO SIGNAL	2.0	0.5	0	2.0	5.1	5.1	0	0	0.3	5.1	5.1	1.1	1.1	4.4	3.7	3.7	1.4	0	1.3	1.1	2.0	2.0	5.1	2.0
	FM 60dB STEREO	2.0	0.5	0	2.0	5.1	5.1	1.1	0	0.3	0	0	1.1	1.1	4.3	4.1	3.7	1.4	0	1.4	1.1	2.0	2.0	5.1	2.0
	AM NO SIGNAL	2.0	0.5	0	2.0	5.1	5.1	0	0	0.3	5.1	5.1	1.1	1.1	4.5	0.1	0	1.4	1.4	1.5	1.6	2.0	2.0	5.1	2.0
IC2	FM NO SIGNAL	2.4	0	0	1.1	5.0	1.1	3.7	3.7	0	0	5.1	0	0	0	0	2.6	5.1	1.0	1.0	3.7	0	2.7		

Tr No.	Q1		
PIN NAME	E	C	B
FM 87.5MHz	0	7.5	0.7
AM 520KHz	0	0	0


L1 GQR0796-001
(MW OSC)
R12 1K
C21 0.047
C12 10P
R13 100K
R10 1K
C13 0.047
C37 0.047
C33 100/10
R29 47K
R31 10K
R30 10K
C34 15P
R23 27
R36 10K
R37 4.7K
C36 10/16
R48 1K
R38 3.9K
C49 0.015
R42 1K
Q1
R21 220K
R22 330
CF2 QAX0419-001Z
AM RF
S.SBNS AM FM
AM OSC
AM OSC OUT
VCC
AGC
GND
IF OUT /CONT
TU IND
ST IND
Rch OUT
IC1 TA2057N
FM IF/DBT/MPX AM RF/IF/DBT
FM IF IN
AM MIX OUT
Vst
AM IF IN
FM QUAD
FM OUT
AM OUT
MPX IN
LPF1
LPF2
VCO
Lch OUT
(AM IF)
T1 QQR0793-001
CF3
QAX0418-001Z
R24 270
C48 0.022
R25 47K
C41 0.1/50
CF4 QAX0409-001
R39 3.9K
C50 0.015
Q7
Q8
R34 33K
R35 33K
R32 47K
C47 0.01
C45 3.3/50
R27 22K
C44 220P
C39 0.047
C30 47/16
C40 0.01
C42 0.47/50
C51 1/50
C52 1/50
C91 0.01
Q6
QGF1205F1-10 CN1
1 ANT GND
2 GND
3 Rch
4 Lch
5 +B
6 DATA
7 MPX
8 CLOCK
9 PERIOD
10 Vt/FM+B

Q1			Q6			Q7			Q8		
E	C	B	E	C	B	E	C	B	E	C	B
0	7.5	0.7	8.8	8.8	0	1.6	0	1.1	1.6	0	1.1
0	0	0	8.8	0	8.7	1.6	0	1.1	1.6	0	1.1

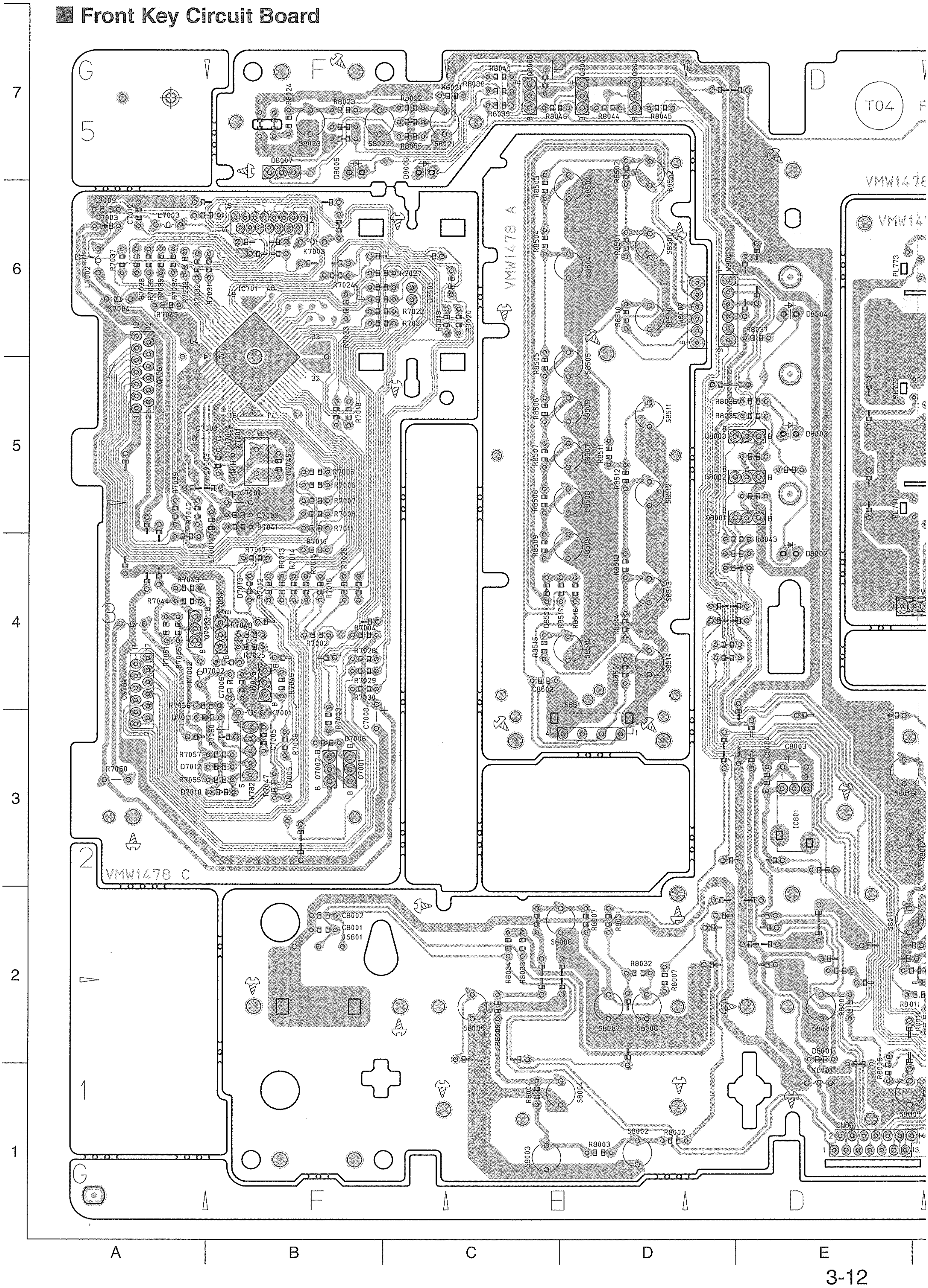
⇒ AM RADIO SIGNAL

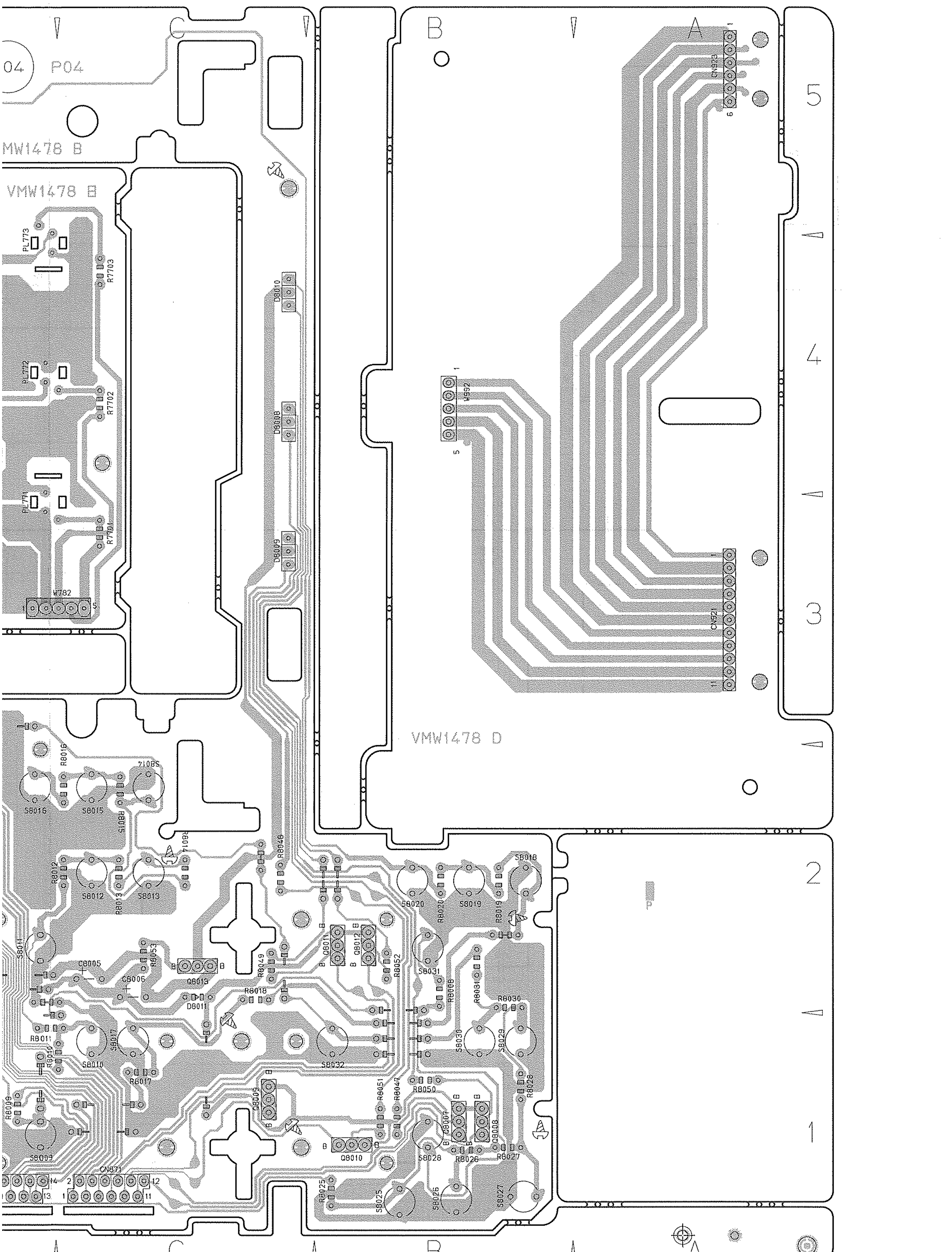
⇒ FM RADIO SIGNAL

F	G	H	I	J

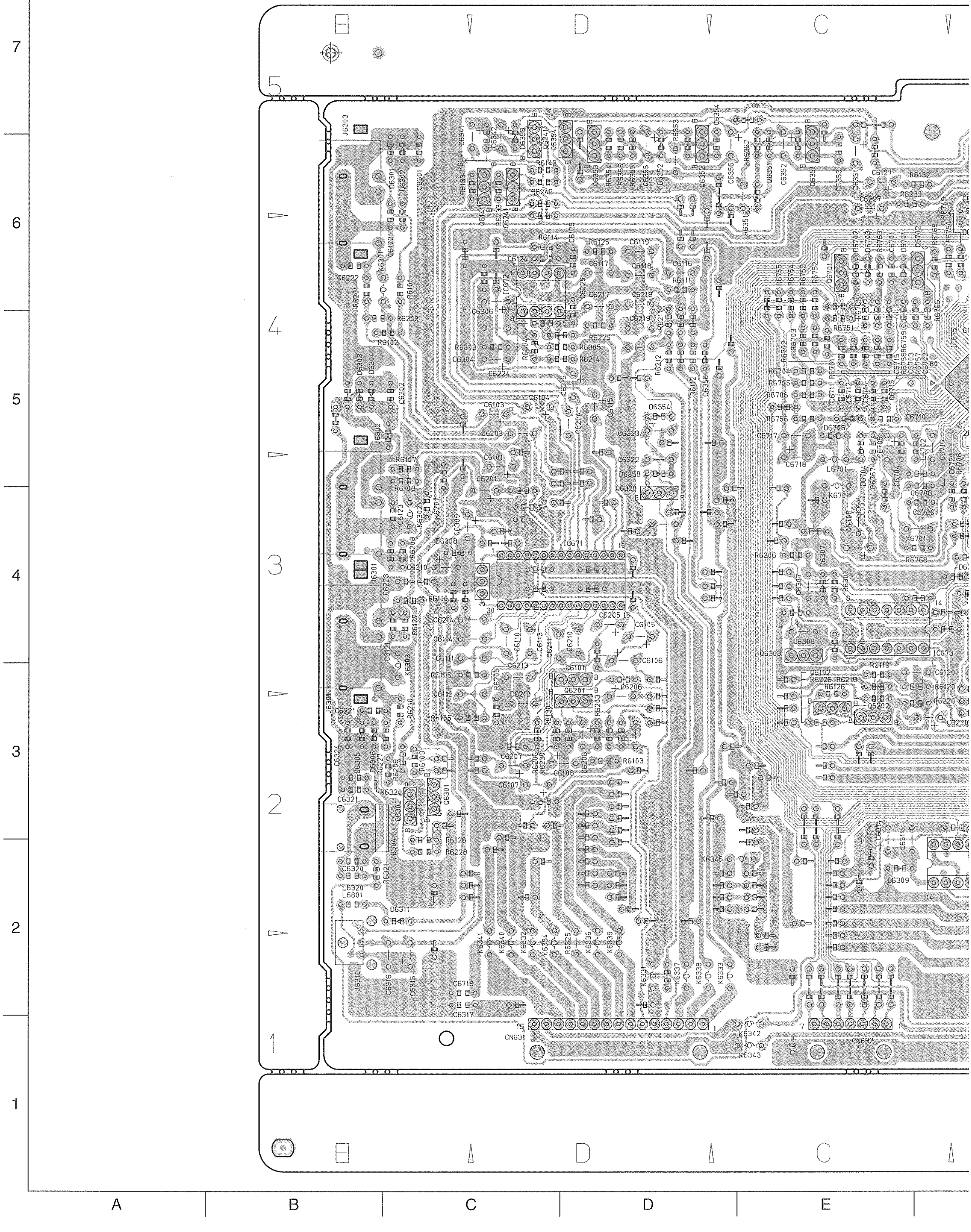
Printed circuit boards

■ Front Key Circuit Board


7
6
5
4
3
2
1
A
B
C
D
E
VMW1478 A
VMW1478 C
IC701
CN761
IC801
CN861
T04


C
B
A
04
P04
MW1478 B
VMW1478 B
VMW1478 D
5
4
3
2
1
CN923
W992
CN921
PL773
R7703
PL772
R7702
PL771
R7701
W782
D8010
D8008
D8009
S8016
S8015
S8017
R8016
R8015
R8014
S8012
S8013
R8012
R8013
R8048
S8011
C8005
C8006
R8053
Q8013
D8011
R8049
R8018
R8011
R8010
S8010
S8017
R8017
R8009
S8009
CN871
Q8011
Q8012
R8052
S8032
Q8009
R8051
R8047
Q8010
R8025
S8025
S8020
R8020
S8019
R8019
S8018
S8031
R8008
R8031
R8030
S8030
S8029
R8050
Q8007
Q8008
R8026
R8027
R8028
S8028
S8026
S8027
P
F
G
H
I
J

Input Circuit Board


7
6
5
4
3
2
1
A
B
C
D
E
J6303
D6301
D6302
Q6301
C6122
K6301
C6222
R6201
R6101
R6202
R6102
D6303
D6304
C6302
J6302
R6107
R6108
C6123
K6302
R6207
C6309
D6308
R6208
C6310
J6301
C6223
R6110
R6127
C6121
K6303
J5301
C6221
R6210
C6324
D6305
D6306
R6227
R6209
R6109
R6320
C6321
Q6302
Q6301
R6128
R6228
J6304
C6320
R6321
L6320
L6801
D6311
J6310
C6316
C6315
C6719
C6317
CN631
CN632
C6341
C6342
D6358
Q6341
Q6354
R6142
R6133
R6341
Q6141
R6233
Q6241
R6242
Q6353
R6354
R6356
R6355
C6355
D6352
R6353
Q6352
C6354
C6356
R6352
D6351
C6352
Q6351
C6353
C6351
C6127
R6132
C6227
R6232
R6114
C6125
R6125
C6119
C6124
C6117
C6116
C6118
IC672
C6306
C6223
C6217
C6218
R6111
C6219
R6211
R6303
C6304
R6304
R6225
R6305
R6214
C6224
C6215
R6212
C6103
C6104
C6204
C6115
D6354
C6203
C6323
C6101
C6322
C6201
D6358
Q6320
IC671
C6205
C6214
C6105
C6114
C6110
C6113
C6211
C6210
C6111
C6213
C6106
R6106
R6205
Q6101
C6112
C6212
Q6201
C6206
R6105
R6130
R6203
C6207
R6206
R6290
C6208
R6103
C6108
C6107
K6345
K6341
K6340
K6332
K6334
R6325
K6336
K6339
K6331
K6337
K6338
K6333
K6342
K6343
D6356
R6112
R6755
R6754
R6753
R6752
C6701
D6702
D6703
R6763
C6761
D6701
C6702
R6769
R6750
R6749
R6751
R6702
R6703
R6704
R6705
R6706
R6756
C6717
C6718
D6706
L6701
K6701
C6710
C6709
C6708
X6701
R6768
R6306
D6307
R6307
C6307
C6308
Q6303
IC673
R3119
C6102
R6226
R6219
R6126
Q6202
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16
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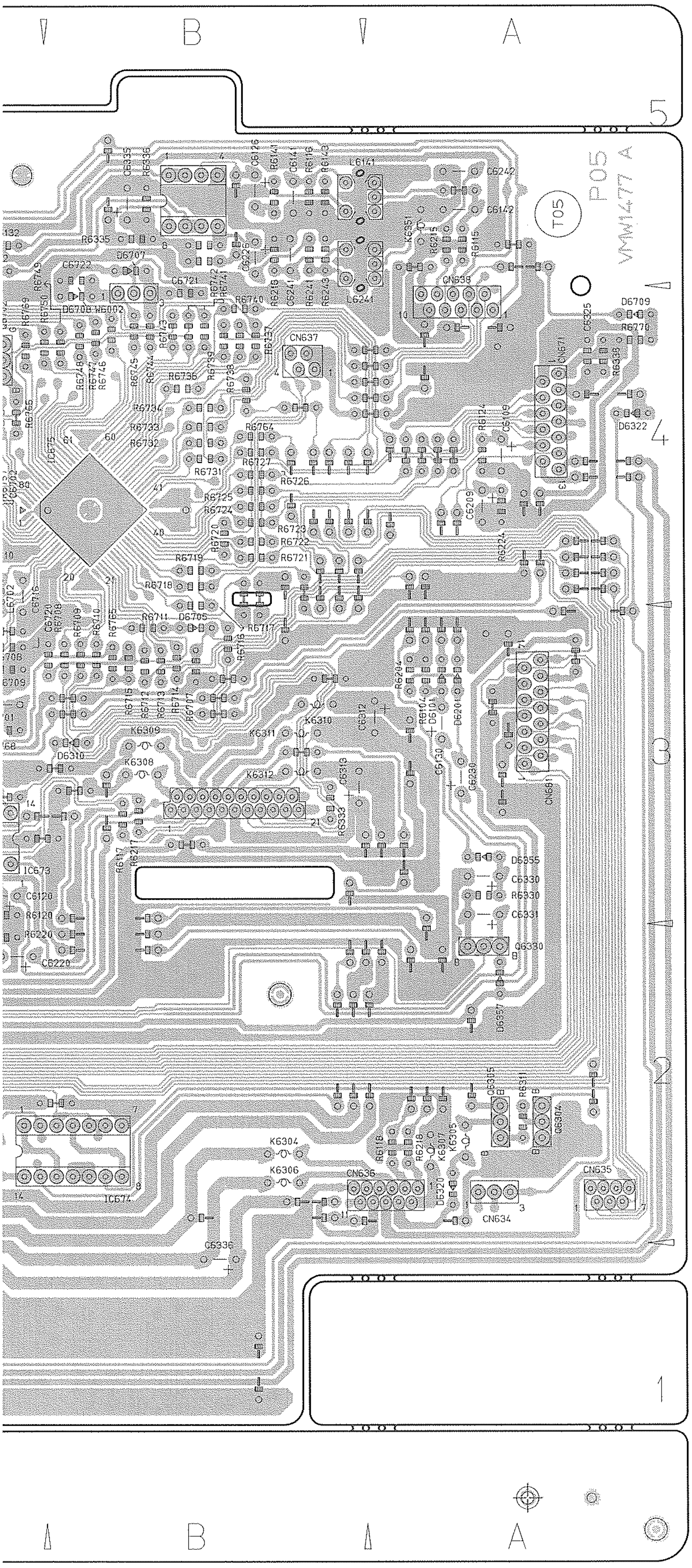
B
A
5
4
3
2
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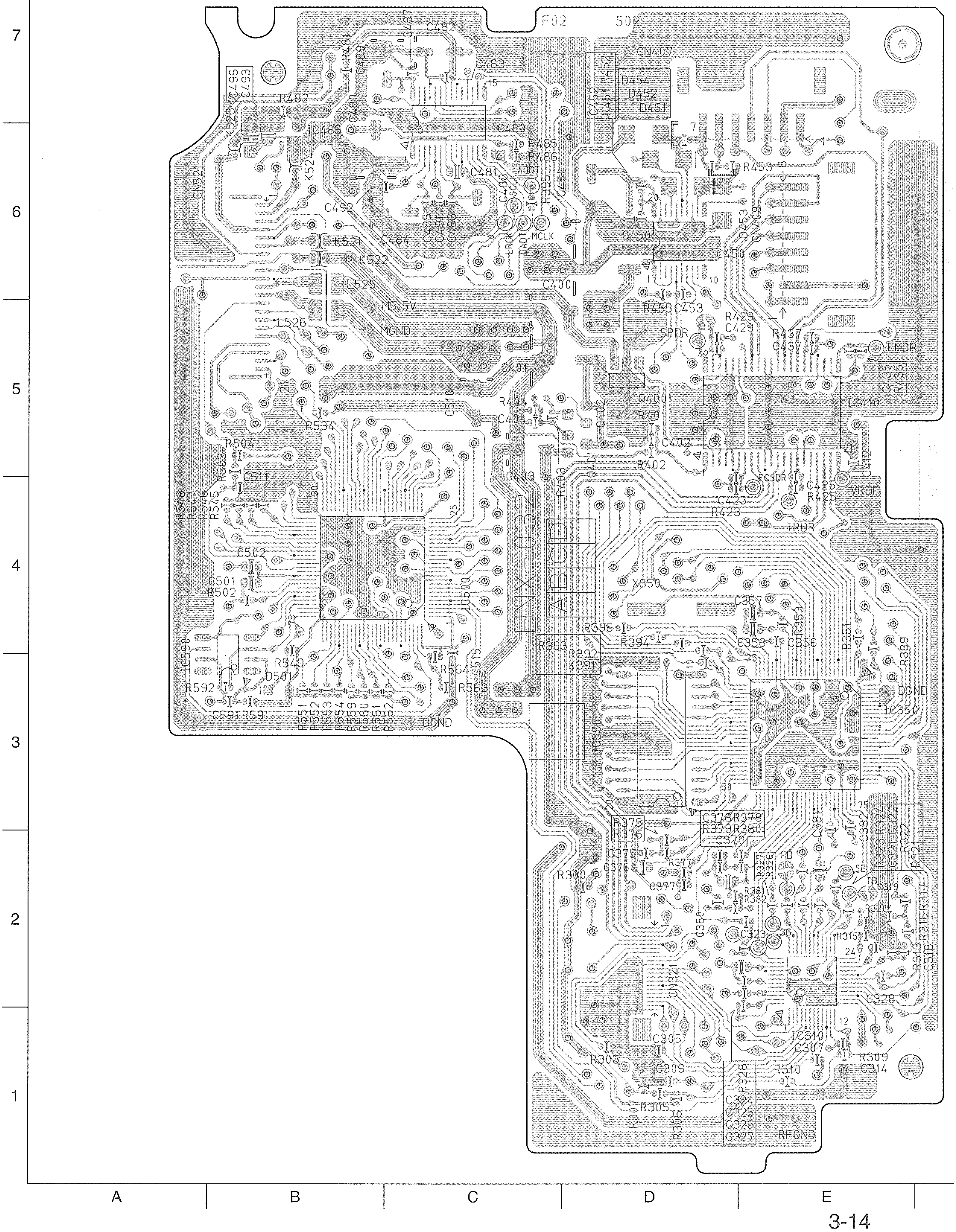
P05
VMW1477 A
T05
IC675
IC673
IC674
CN637
CN638
CN671
CN681
CN634
CN635
CN636
L6141
L6241
D6709
D6322
D6705
D6310
D6355
C6330
R6330
C6331
Q6330
Q6304
K6304
K6306
K6308
K6310
K6311
K6312
C6336
C6120
R6120
R6220
C6220
C6242
C6142
C6722
C6721
R6335
R6770
R6764
R6727
R6726
R6725
R6724
R6723
R6722
R6721
R6719
R6718
R6717
R6711
R6731
R6732
R6733
R6734
R6735
R6740

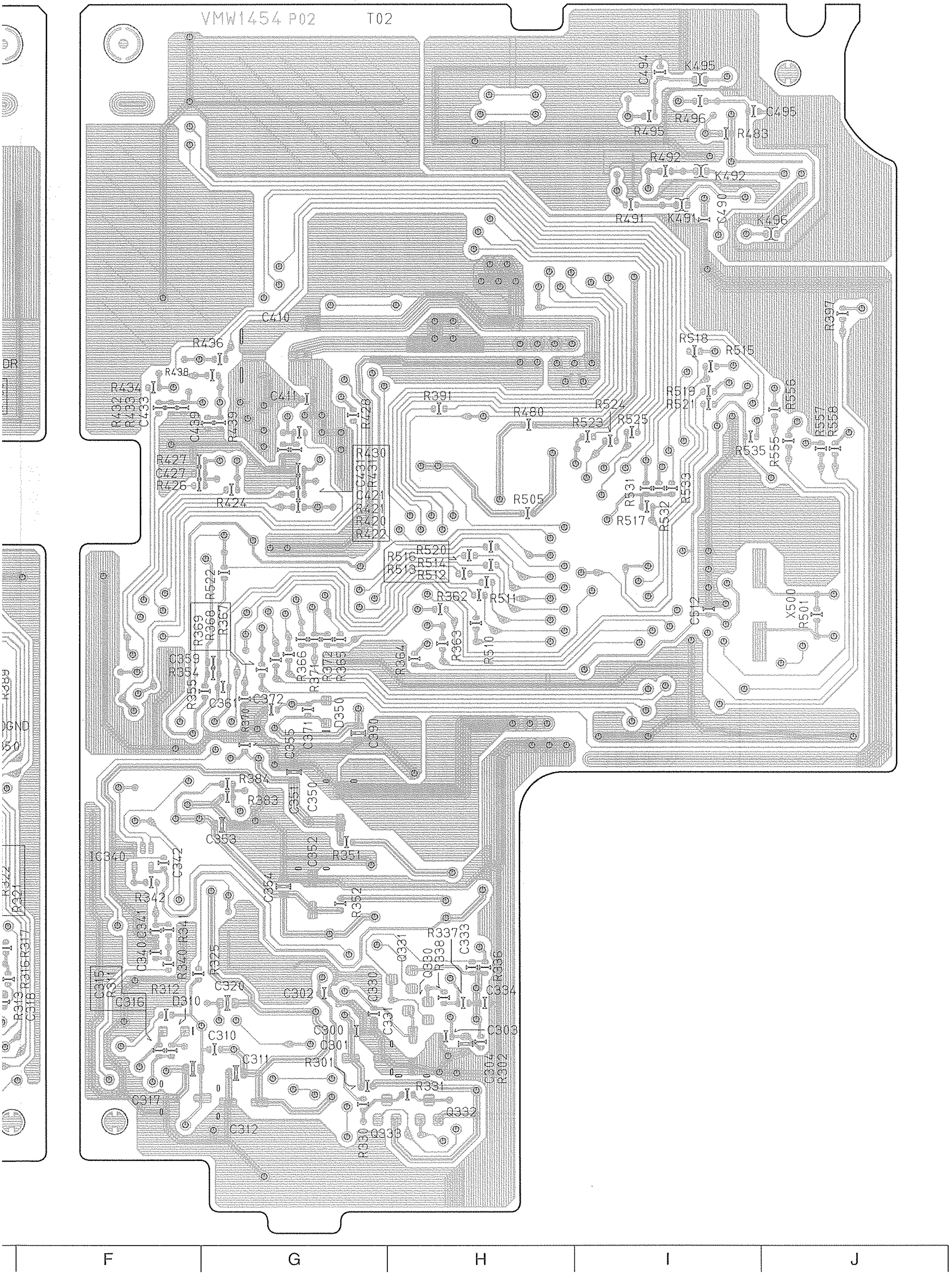
F	G	H	I	J

MD Servo Coicuit Board

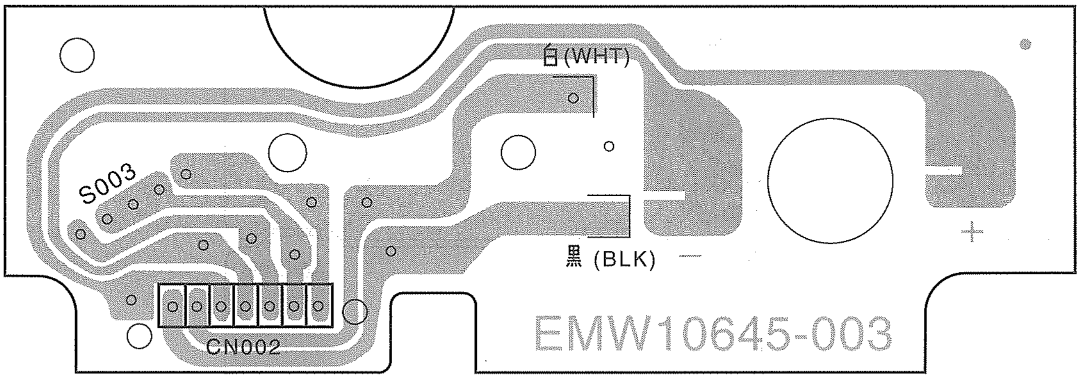
(Forward side)


7
6
5
4
3
2
1
A
B
C
D
E
F02
S02
CN407
C487
C482
R481
C489
C483
C496
C493
R482
K523
C480
IC485
IC480
R485
R486
ADDT
C481
C488
SCL
R395
C451
LRCK
DADT
MCLK
CN521
K524
C492
C485
C491
C486
C484
K521
K522
L525
M5.5V
MGND
L526
C400
C450
IC450
R452
R451
C452
D454
D452
D451
R453
D453
C408
R455
C453
SPDR
R429
C429
R437
C437
FMDR
C435
R435
C401
C510
R404
C404
Q400
Q402
R401
C402
R402
IC410
Q412
R534
R504
R503
C511
C403
R403
Q401
FCSDR
C425
R425
VREF
C423
R423
TRDR
R548
R547
R546
R545
C502
C501
R502
IC500
LNX-032
ABCD
X350
C357
R353
R396
R394
C358
C356
R361
R389
R393
R392
K391
IC590
R549
D501
R592
C591
R591
R551
R552
R553
R554
R559
R560
R561
R562
DGND
R564
C515
R563
IC390
IC350
R375
R376
C378
R378
R379
R380
C379
C381
C382
R324
C322
R323
C321
R322
R321
C375
C376
R377
R327
R326
FB
SB
TB
C319
R300
C377
R381
R382
R320
R317
R316
R313
C318
C380
C323
R315
CN321
C328
C305
IC310
C307
R309
C314
R303
C306
R310
R328
R307
R305
R306
C324
C325
C326
C327
RFGND

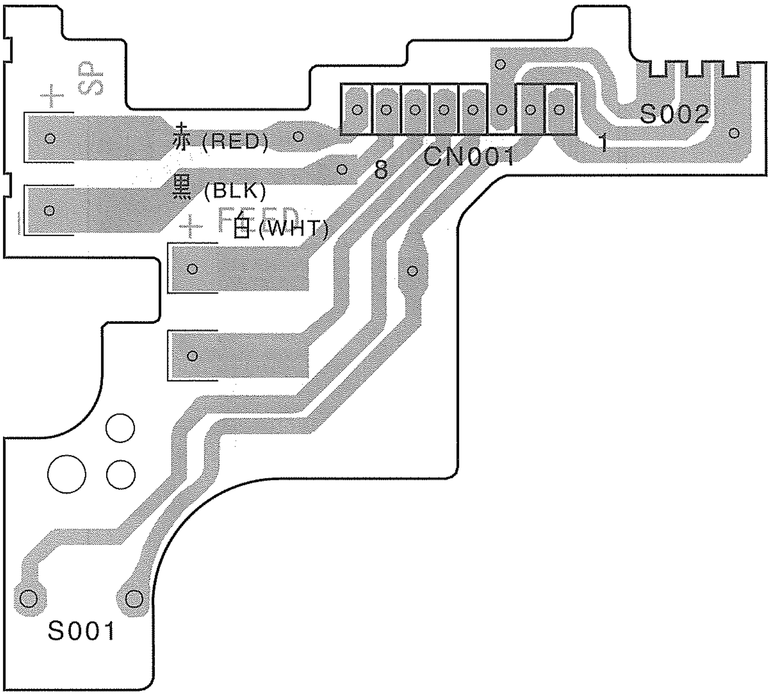
(Reverse side)


VMW1454 P02
T02
C494
K495
C495
R496
R495
R483
R492
K492
R491
K491
C490
K496
C410
R436
R438
R434
R432
R433
C433
C439
R439
C411
R428
R391
R480
R524
R523
R525
R518
R515
R519
R521
R556
R397
R557
R558
R535
R555
R430
C431
R431
C421
R421
R420
R422
R427
C427
R426
R424
R505
R531
R517
R532
R533
R516
R520
R514
R513
R512
R362
R511
R363
R510
R364
R522
R369
R368
R367
C359
R354
R355
C361
C372
R370
R366
R371
R372
R365
D350
C355
C371
C390
C512
X500
R501
R384
R383
C351
C350
C353
C352
R351
IC340
C342
R342
C354
R352
C341
R341
C340
R340
R325
R337
C333
Q331
Q330
R338
R336
C334
C315
R311
R312
C316
D310
C320
C302
C330
C331
C300
C301
C303
C310
C311
R301
C304
R302
R331
C317
Q332
C312
R330
Q333
DR
R389
DGND
350
R322
R321
R317
R316
R313
C318
F
G
H
I
J

MD Mechanism board


白(WHT)
S003
黒 (BLK)
−
+
CN002
EMW10645-003

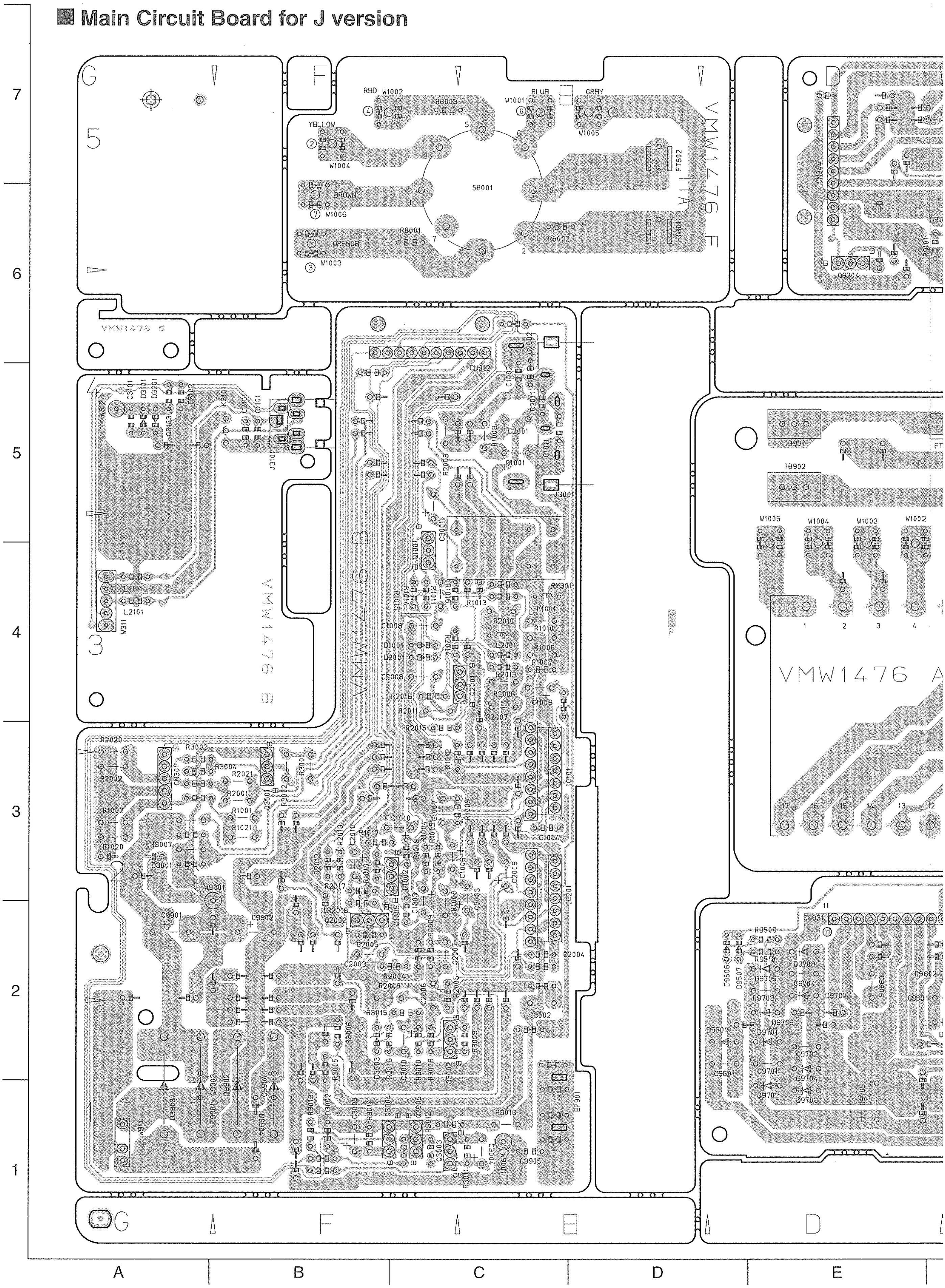
Switch Circuit board

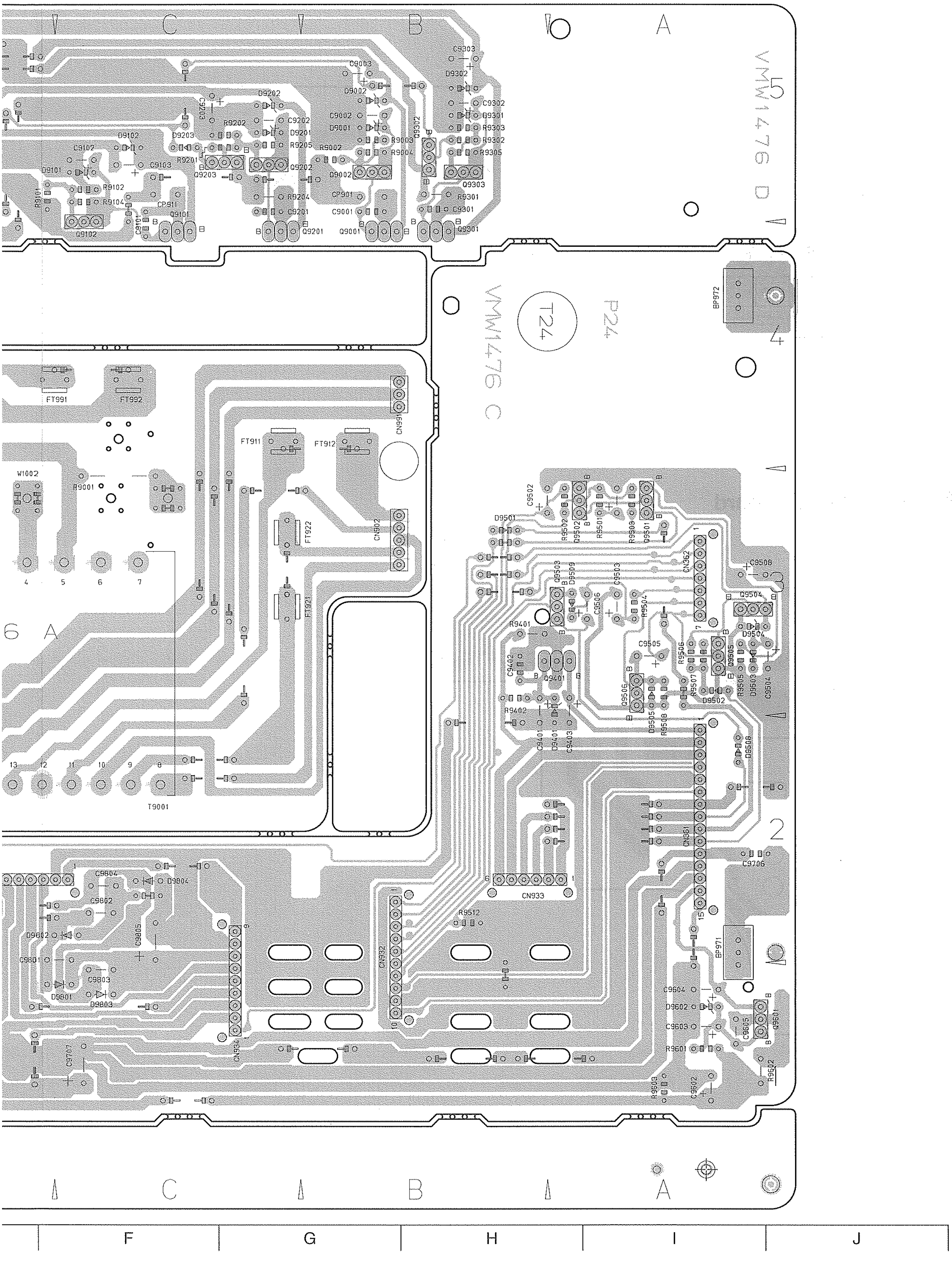

SP
+
赤 (RED)
黒 (BLK)
FEED
+
白(WHT)
8
CN001
1
S002
S001

7
6
5
4
3
2
1

A B C D E

Main Circuit Board for J version


7
6
5
4
3
2
1
A
B
C
D
E
VMW1476 F
VMW1476 G
VMW1476 B
VMW1476 A
S8001
RED W1002
R8003
BLUE W1001
GRBY W1005
YELLOW W1004
BROWN W1006
ORENGE W1003
R8001
R8002
FT602
FT601
T1A
CN944
Q9204
CN912
C2002
C1002
C2001
C1001
J3001
C3001
Q1001
RY301
L1001
R1010
R1006
R1007
L2001
R2010
R2013
R2006
R2007
Q2001
C1009
IC101
IC201
C1004
C2009
C2004
C3002
Q3002
R3009
R3008
EP901
R3018
C3004
W9001
C9905
C9901
C9902
D9901
D9902
D9903
D9904
C9903
C9904
W311
W312
J310
K310
C3101
D3101
D3201
C3102
C3103
C2101
C1101
L1101
L2101
R2020
R3003
R2002
R3004
R2021
R2001
R1001
R1021
R1002
R1020
R3007
D3001
CN301
Q3901
R3001
R3002
R3006
R3005
R3013
R3014
Q3004
Q3005
Q3003
R3012
R3015
R3016
R3010
D3003
R2004
R2008
R2005
C2003
C2005
Q2002
R2018
R2017
R2012
R2019
C2010
R1017
C1010
R1004
R1005
C1007
R1009
R1018
Q1002
C1005
C1003
R1006
C1006
C3003
R2009
C2007
C2006
C1008
D1001
D2001
C2008
R2016
R2011
R2015
R1012
R1013
R1014
R1015
R1011
R2003
R1003
C1011
TB901
TB902
W1005
W1004
W1003
W1002
CN931
R9509
R9510
D9506
D9507
D9708
D9705
D9704
C9703
D9706
D9707
D9603
D9802
C9801
D9601
D9701
C9702
C9601
C9701
D9704
D9702
D9703
C9705
G
F
D


VMW1476 D
VMW1476 C
T24
P24
5
4
3
2
6 A
C
B
A
F
G
H
I
J
C9303
D9302
C9302
Q9301
R9303
R9302
R9305
Q9303
R9301
C9301
Q9302
C9003
D9002
C9002
D9001
R9003
R9004
R9002
Q9002
CP901
C9001
Q9001
D9202
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Q9202
R9204
C9201
Q9201
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D9203
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Q9203
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C9102
C9103
D9101
R9102
R9104
R9101
CP911
C9101
Q9101
Q9102
BP972
FT991
FT992
CN991
FT911
FT912
W1002
R9001
CN902
FT922
FT921
T9001
C9502
D9501
R9502
Q9502
R9501
R9503
Q9501
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D9504
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Q9401
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C9401
D9401
C9403
C9505
R9506
Q9505
R9507
R9505
D9503
C9504
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R9601
R9602
R9603
C9602
C9604
D9604
C9602
D9602
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C9801
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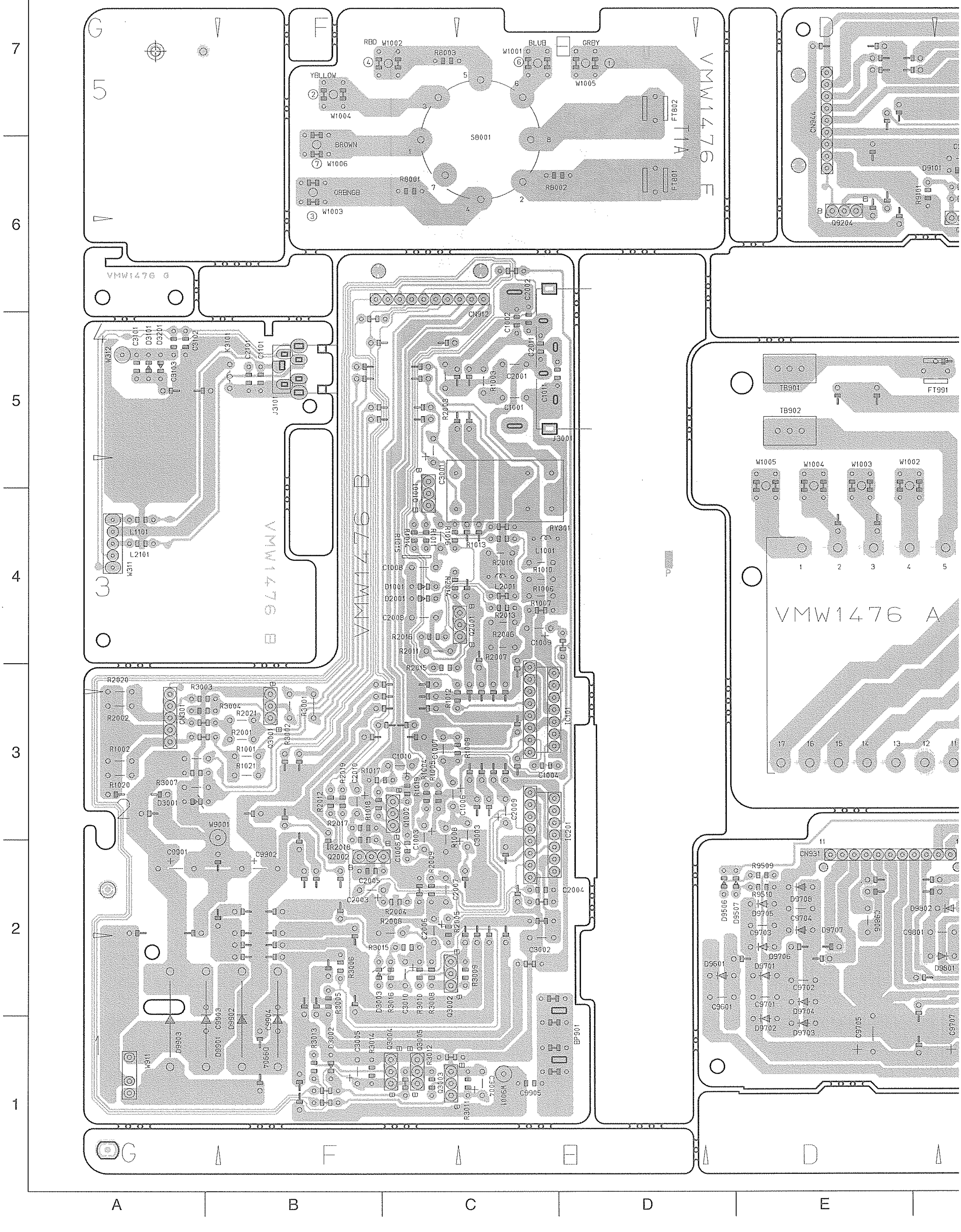
D9601
D9803
C9707
CN934

Main Circuit Board for R series version and U verson



7
6
5
4
3
2
1
A
B
C
D
E
G
F
D
5
VMW1476 G
RED
W1002
R8003
BLUE
W1001
GRAY
W1005
YELLOW
W1004
BROWN
W1006
ORANGE
W1003
R8001
R8002
S8001
FT802
FT801
VMW1476 F
CN944
D9101
R9101
Q9204
4
W312
C3101
D3101
D3201
C3102
C3103
K310
C3101
C1101
J310
L1101
L2101
W311
3
VMW1476 B
CN912
C1002
C2002
C2011
R1003
C2001
C1101
C1001
R2003
J3001
C3001
Q1001
RY301
L1001
R1010
R1006
R1007
R2010
L2001
R2013
R2006
C1009
R2007
C1008
D1001
D2001
C2008
R2015
R2011
R1013
Q2001
R1012
IC101
C1004
R1009
IC201
C2009
C2004
C3002
R2020
R3003
CN301
R2002
R3004
R2021
R2001
R1001
R1021
R1002
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R3007
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R3002
R3001
W9001
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C9902
C1010
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D3002
C3005
R3014
C3004
Q3005
R3012
Q3003
R3011
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D9903
C9903
D9901
D9902
C9904
D9904
W911
TB901
FT991
TB902
W1005
W1004
W1003
W1002
1
2
3
4
5
VMW1476 A
17
16
15
14
13
12
11
CN931
R9509
R9510
D9506
D9507
D9705
D9708
C9704
C9703
D9707
D9802
C9801
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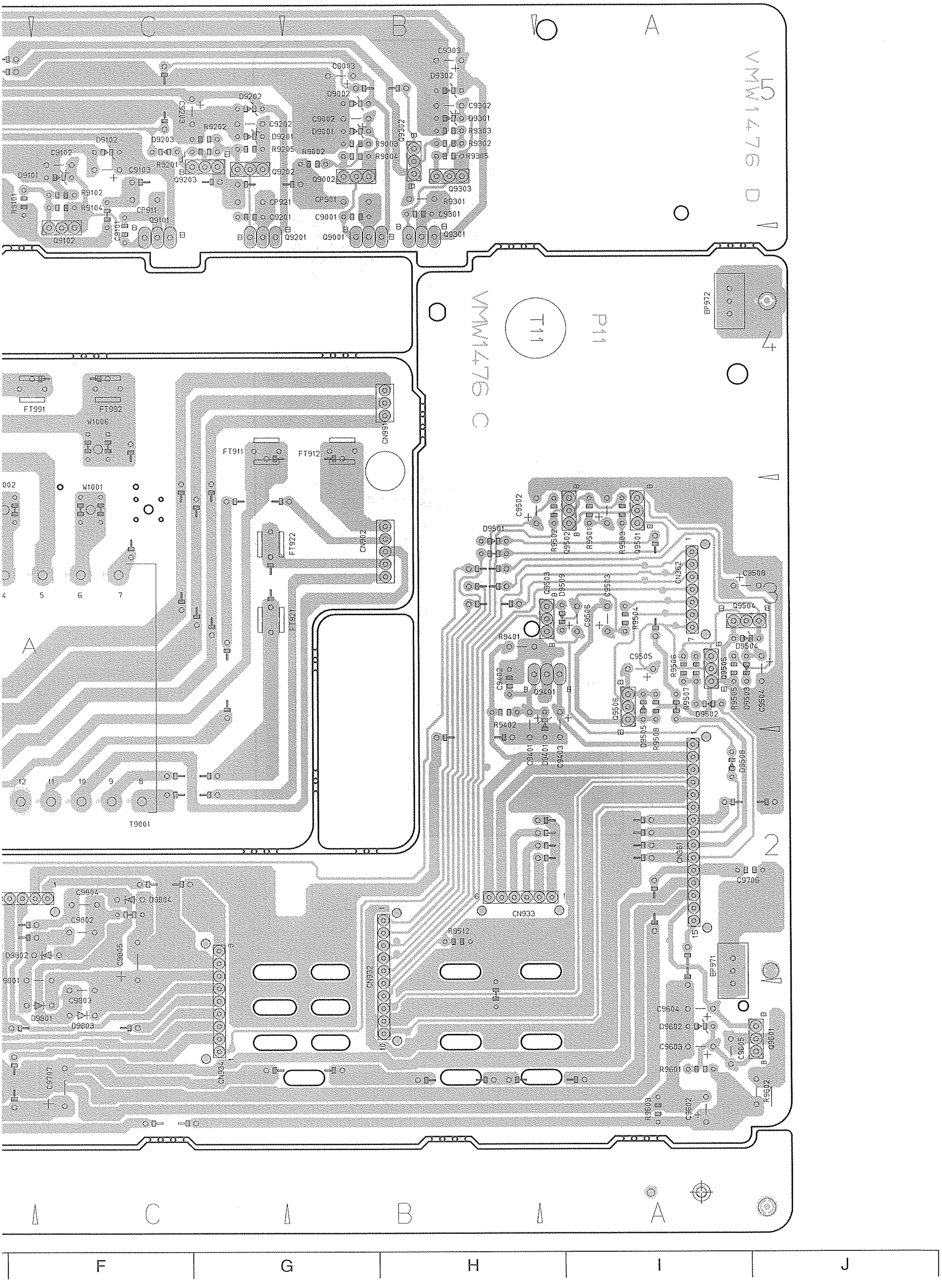
D9702
D9703
C9705
C9707
D9801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C
VWM1476 D
VWM1476 C
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T11
BP972
BP971
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D9302
C9302
D9301
R9303
R9302
R9305
Q9303
R9301
C9301
Q9301
C9003
D9002
C9002
D9001
R9003
R9004
R9002
Q9002
Q9302
CP901
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D9202
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D9803
C9707
C9604
D9602
C9603
C9605
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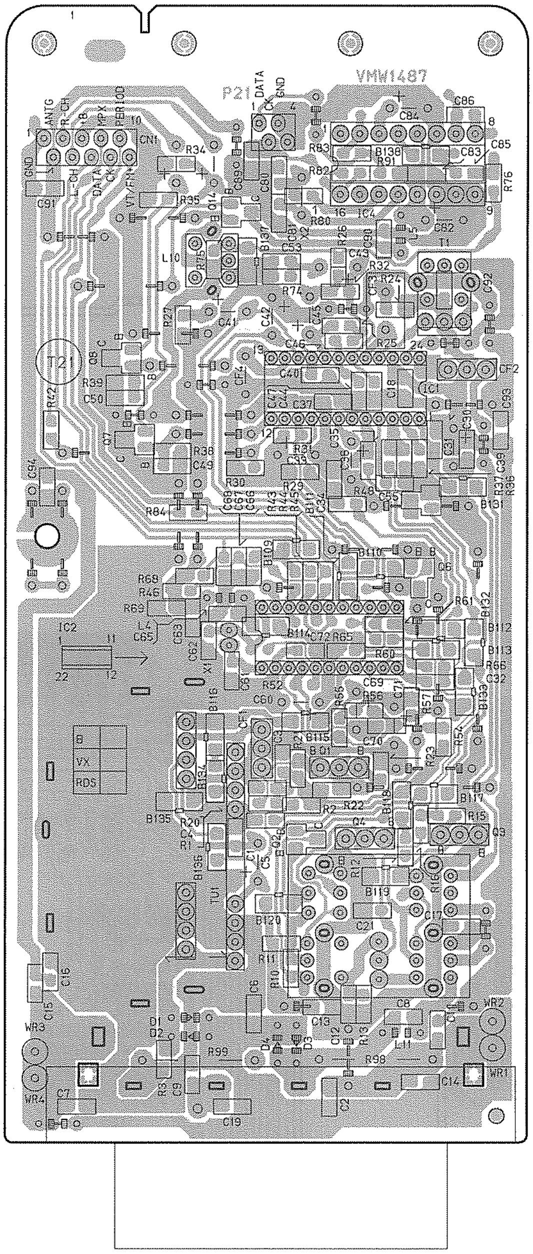
R9602
R9603
C9602
F
G
H
I
J

Tuner Circuit Board for R version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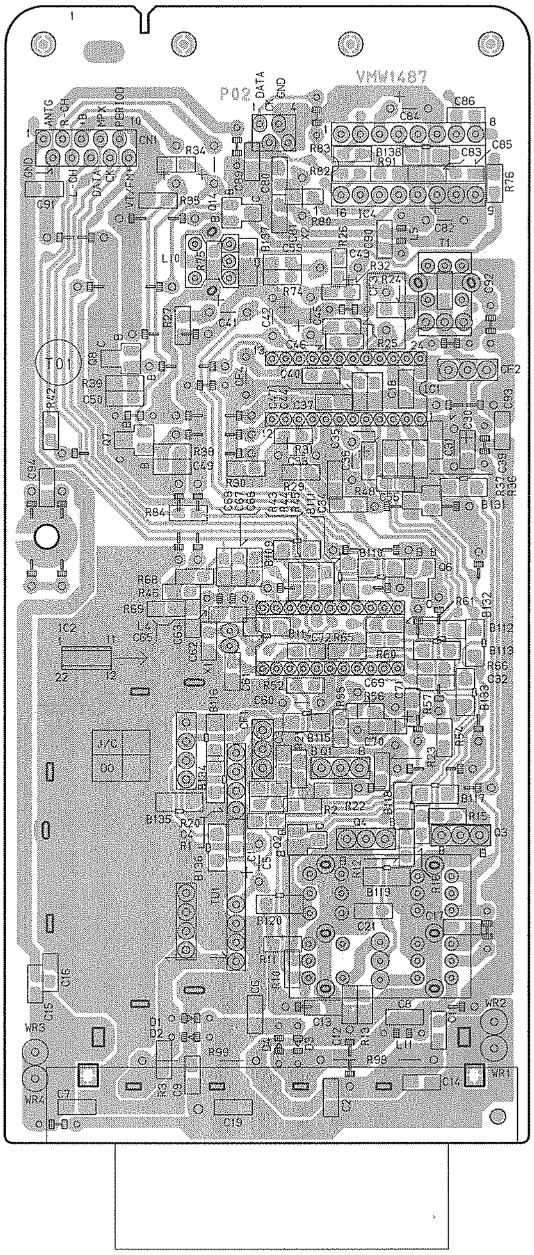
DATA
CK
GND
CN1
ANTG
R-CH
L-CH
MPX
PERIOD
VT/FM
IC1
IC2
IC4
T1
T21
CF2
TU1
X1
B
VX
RDS
WR1
WR2
WR3
WR4
C86
C84
C85
C83
R76
R91
R83
R82
C91
R34
R35
L10
C53
R74
C41
C42
C45
C46
C40
C47
C37
R39
C50
R42
Q8
Q7
R38
C49
R30
R84
C94
R69
R46
L4
C65
C63
C62
R52
C60
C69
R56
R60
R65
C72
B114
R61
B112
B113
R66
C32
B135
R20
B136
B120
R11
B10
C13
R98
C14
C19
C7
R99
R3
C9
C2
D1
D2
D3
D4
L11
C8
C21
C17
B119
R12
Q4
R15
Q9
R22
B118
B117
C70
B115
C15
C16

7
6
5
4
3
2
1

A B C D E

■ Tuner Circuit Board for J version



PARTS LIST

[MX-MD70 CA-MD70/CA-MD70R]

* All printed circuit boards and its assemblies are not available as service parts.

Areas Suffix
MX-MD70 J ---------------------- The U.S.A. & Canada
CA-MD70 UT ------------------------- Taiwan US -------------------- Singapore UB ------------------- Hong Kong U -------------------- Other Areas
CA-MD70R B ----------------------------- U.K. E ---------- Continental Europe EN ----------- Northern Europe

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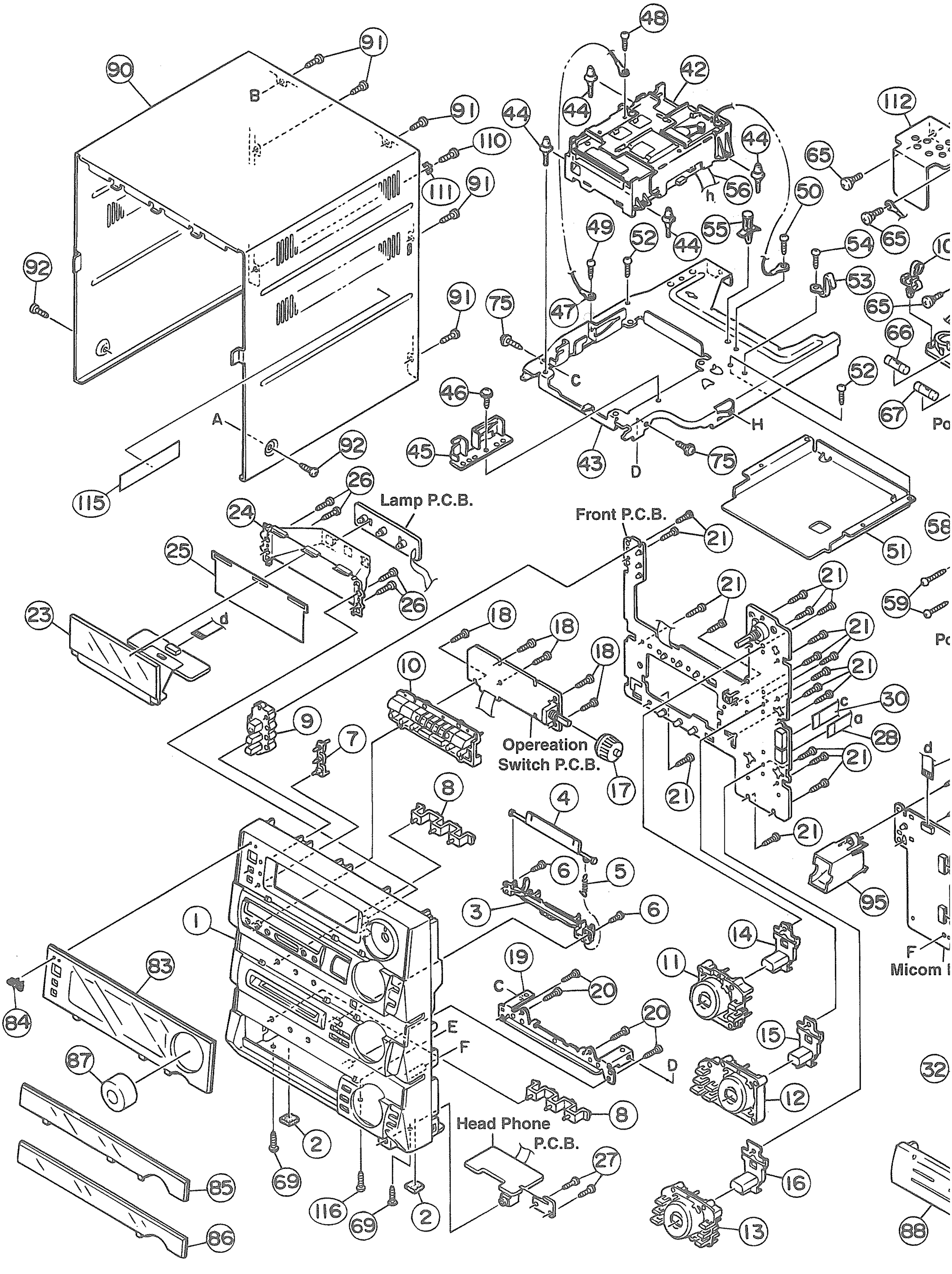
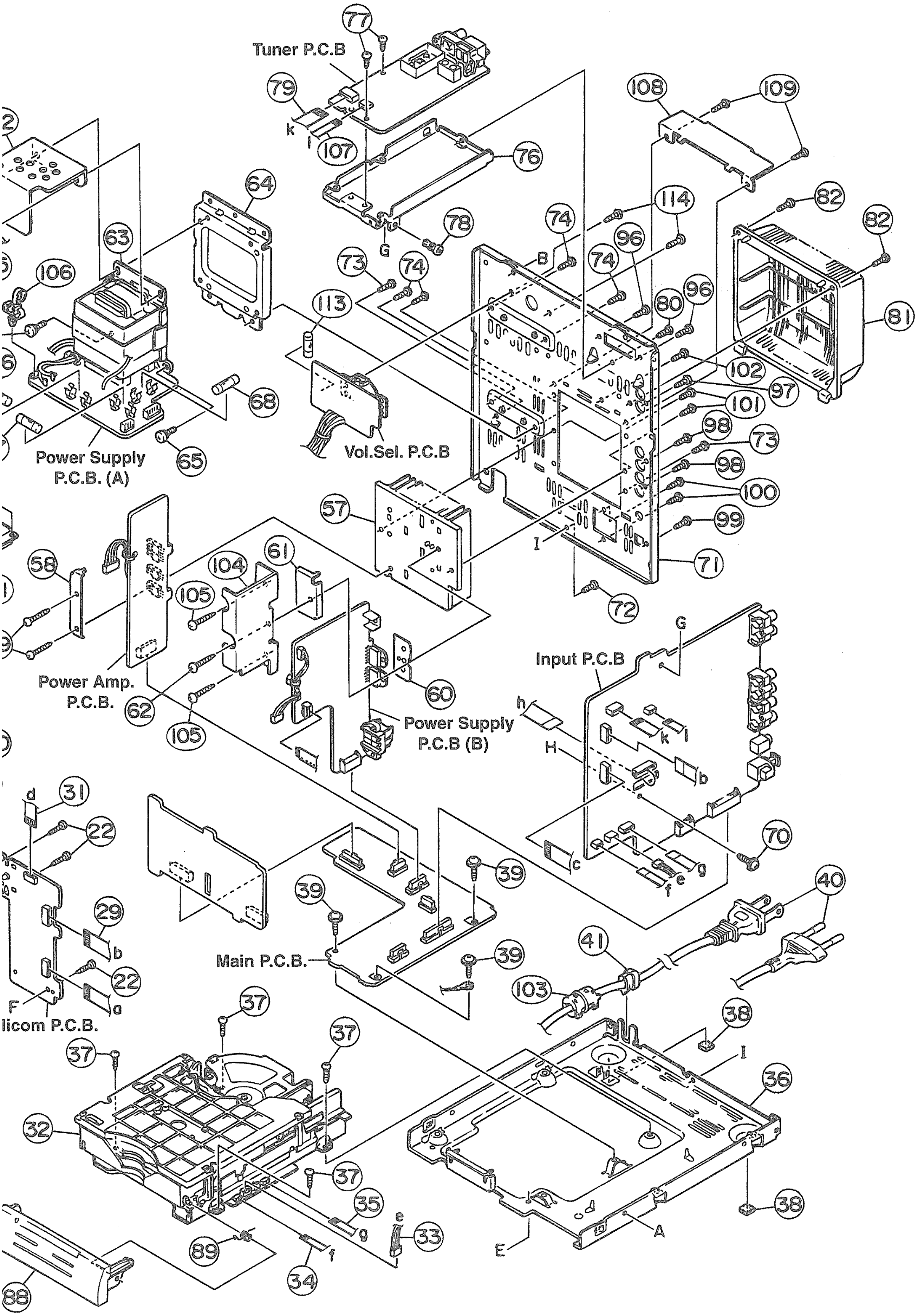
MD Mechanism Ass'y and Parts List -- 4-9
Electrical Parts List --- 4-11
Speaker Ass'y and Parts List -- 4-28
Packing Materials and Accessories Parts List for Speaker ---------------------------- 4-29
Packing Materials and Accessories Parts List -- 4-30

Exploded View of General Assembly and Parts List

Block No. M1MM



48
91
90
B
42
91
44
44
110
44
112
111
91
56
h
65
50
55
44
49
52
54
65
53
92
47
65
91
75
66
C
52
46
67
A
H
45
92
43
75
D
115
26
Lamp P.C.B.
24
Front P.C.B.
58
21
51
25
21
21
26
23
d
59
18
18
21
18
10
21
30
c
a
28
9
7
Opereation
Switch P.C.B.
d
17
21
21
8
4
21
95
6
5
3
6
14
F
1
83
19
11
C
20
84
20
E
15
F
87
D
32
2
8
12
Head Phone
P.C.B.
69
27
85
16
116
69
2
13
86
88


Tuner P.C.B
k
l
G
B
Power Supply P.C.B. (A)
Vol.Sel. P.C.B
I
Power Amp. P.C.B.
Power Supply P.C.B (B)
Input P.C.B
G
h
H
k
l
b
c
g
e
f
d
b
a
F
licom P.C.B.
Main P.C.B.
I
g
e
f
E
A

■ Parts List (General Assembly)

BLOCK NO. M1MM☐☐☐

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	LV10075-002A	FRONT PANEL		1		
	2	E75896-002	SPACER	FOOT	2		
	3	LE20365-001A	DISC GUIDE	MD	1		
	4	LE30566-002A	SHUTTTER	MD	1		
	5	LV40116-001A	SPRING	MD	1		
	6	QYSDSF2606M	SCREW	F.PANEL+D.GUIDE	2		
	7	LV40349-001A	INDICATOR	FOR POWER	1		
	8	LV40350-001A	INDICATOR	FOR MD/CD	2		
	9	LV30428-001A	PUSH BUTTON(PWR		1		
	10	LV20108-002A	PUSH BUTTON(PRG		1		
	11	LV20109-002A	PUSH BTN(TUNER)		1		
	12	LV20110-002A	PUSH BTN(MD)		1		
	13	LV20111-002A	PUSH BTN(CD)		1		
	14	LV30443-001A	FUNC.BUTTON(TU)		1		
	15	LV30444-001A	FUNC.BUTTON(MD)		1		
	16	LV30445-001A	FUNC.BUTTON(CD)		1		
	17	LV40354-001A	JOG KNOB ASSY		1		
	18	QYSDSF2608Z	SCREW		5		
	19	LV30408-001A	STAY BKT(MD)		1		
	20	QYSDSF2608Z	SCREW	FOR STAY BKT	4		
	21	QYSDSF2608Z	SCREW	FOR FRONT PWB	18		
	22	QYSDSF2608Z	SCREW	FOR MICOM PWB	3		
	23	QLD0054-002	LCD MODULE		1		
	24	LV30407-002A	LAMP CASE		1		
	25	LV40357-001A	LCD FILTER		1		
	26	QYSDSF2606M	SCREW	F.PANEL+LAMP CA	4		
	27	QYSDSF2608Z	SCREW	FOR HEAD PHONE	2		
	28	QUQ412-1208CJ	FFC WIRE	FRONT PWB-MICOM	1		
	29	QUQ412-1312CJ	FFC WIRE	MICOM PWB-INPUT	1		
	30	QUQ412-1412CJ	FFC WIRE	FRONT PWB-INPUT	1		
	31	QUQ110-1516AJ	FFC WIRE	LCD DRIVE-MICOM	1		
	32	---------------	3CD MECHA		1		
	33	EWS243-092	SKT WIRE ASSY	3CD MECHA-INPUT	1		
	34	QUQ110-0712AJ	FFC WIRE	3CD MECHA-INPUT	1		
	35	QUQ110-1112AJ	FFC WIRE	3CD MECHA-INPUT	1		
	36	LV10077-001A	CHASSIS BASE		1		
	37	QYSBST3006Z	TH TAP SCREW	3CD MECHA+CHASS	4		
	38	E75896-006	FELT SPACER	FOOT FOR CHASSI	2		
	39	QYSBSGG3008Z	TAP.SCREW	FOR MAIN PWB	3		
⚠	40	QMP5530-0085LBS	POWER CORD		1	B	
⚠		QMPD220-200-JD	POWER CORD		1	J	
⚠		QMPN100-200-JD	POWER CORD		1	UB	
⚠		QMPR120-200-JD	POWER CORD		1	UT	
⚠		QMP3900-200L	POWER CORD		1	E,EN,U,US	
	41	QHS3771-108	CORD STOPPER		1		
	42	---------------	MD MECHA		1		
	43	LV10076-001A	CHASSIS BASE(MD		1		
	44	E406294-003	C.D INSULATOR		4		
	45	LE30570-001A	BKT	MECHA SIDE	1		
	46	QYSBSGG3008Z	TAP.SCREW	CHASSIS + BKT	1		
	47	QUB220-10DMDM	TERMINAL WIRE	MECHA EARTH	1		
	48	QYSBSG3006Z	T.SCREW	MECHA + T.WIRE	1		
	49	QYSBSG3006Z	T.SCREW	T.WIRE+MD CHASS	1		
	50	QYSBSG3006Z	T.SCREW	T.WIRE FROM MD	1		
	51	E310073-001	SHIELD BKT	LOWER SHIELD	1		

BLOCK NO. M1MM

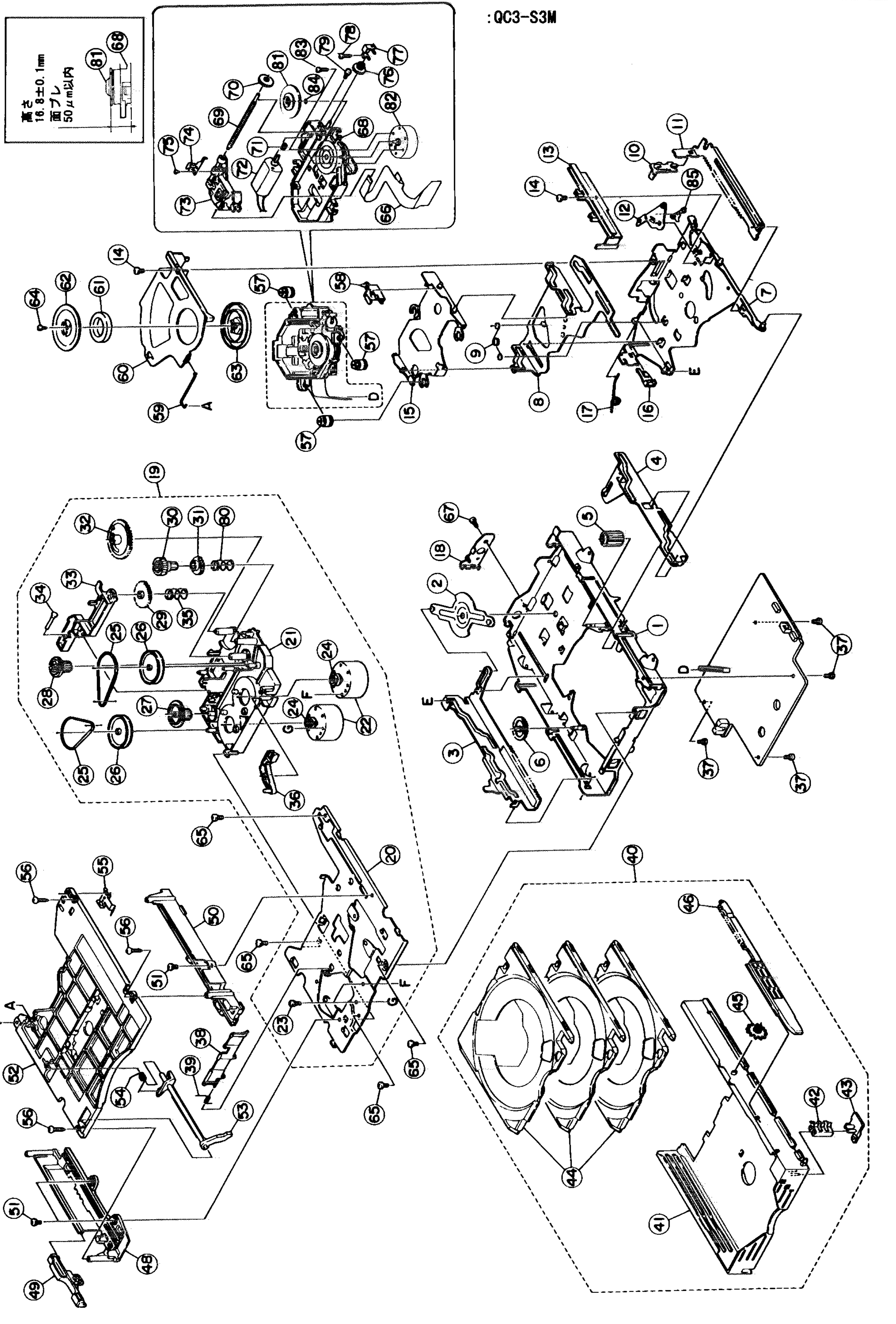
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	52	QYSBSG3006Z	T.SCREW	MD CHASS + S.BK	2		
	53	VKZ4001-110S	WIRE HOLDER	HEAD PHONE WIRE	1		
	54	QYSBSG3006Z	T.SCREW	WIRE HOL.+MD CH	1		
	55	E310244-004	FASTNER		1		
	56	QUQ110-2114AJ	FFC WIRE	MD MECHA-INPUT	1		
	57	LV30412-002A	HEAT SINK		1		
	58	E407434-001SM	LEAF SPRING		1		
	59	QYSBSG3014Z	SCREW	LEAF.SP + H.SIN	2		
	60	FMPK4003-001	MICA SHEET		1		
	61	FMKL4007-001	BRACKET		1		
	62	QYSBSG3014Z	SCREW	BKT + H.SINK	1		
⚠	63	QQT0224-002	POWER TRANSF	T9001(CA-MD70R)	1		
⚠		QQT0224-003	POWER TRANSF	T9001(CA-MD70)	1		
⚠		QQT0224-004	POWER TRANSF	T9001(MX-MD70)	1		
	64	LV30411-001A	TRANS BKT		1		
	65	QYSDSTL4008Z	SPECIAL SCREW	TRANS+TRANS BKT	4		
⚠	66	QMF51E2-1R0-J1	FUSE	F9009(CA-MD70R)	1		
⚠		QMF51U1-2R0-J1	FUSE	F9009(MX-MD70)	1		
⚠		QMF51E2-2R0-J1	FUSE	F9009(CA-MD70)	1		
⚠	67	QMF51E2-1R0-J1	FUSE	F9001(CA-MD70R)	1		
⚠		QMF51E2-1R0-J1	FUSE	F9001(CA-MD70)	1		
⚠		QMF51N2-R40-J1	FUSE	F9001(MX-MD70)	1		
⚠	68	QMF51N2-2R5-J1	FUSE	F9002(MX-MD70)	1		
⚠		QMF51E2-2R5-J1	FUSE	F9002(CA-MD70R)	1		
⚠		QMF51E2-2R5-J1	FUSE	F9002(CA-MD70)	1		
	69	QYSBSG3006E	SCREW	FRONT PANEL+CHA	2		
	70	QYSBSGG3008Z	TAP.SCREW	INPUT PWB+MD CH	1		
	71	LV10078-003A	REAR PANEL	CA-MD70R	1	B,E,EN	
		LV10078-009A	REAR PANEL	CA-MD70	1	UB,US	
		LV10078-005A	REAR PANEL	CA-MD70	1	UT	
		LV10078-010A	REAR PANEL	MX-MD70	1	J	
		LV10078-004A	REAR PANEL	CA-MD70	1	U	
	72	QYSBSGY3008M	SPECIAL SCREW	REAR PANEL+CHAS	1		
	73	QYSBSGY3008M	SPECIAL SCREW	MD CHASS+R.PANE	2		
	74	QYSBSGY3008M	SPECIAL SCREW	TR.BKT + R.PANE	4		
	75	QYSBSGG3008Z	TAP.SCREW	MD CHASS+STAY B	2		
	76	LV20132-001A	TUNER CHASSIS		1		
	77	QYSBSG3006Z	T.SCREW	TUNER PWB+T.CHA	2		
	78	E48729-008	PLASTIC RIVET	INPUT PWB+TNR C	1		
	79	QUQ412-1018CJ	FFC WIRE	TUNER - INPUT	1		
	80	QYSBSGY3008M	SPECIAL SCREW	T.CHA + R.PANEL	1		
	81	E207356-002SM	REAR COVER	MX-MD70	1		
		E207356-001SM	REAR COVER	CA-MD70/70R	1		
	82	QYSBSGY3008M	SPECIAL SCREW	REAR COVER+R.PA	2		
	83	LV30404-008A	LENS(AMP)	MX-MD70	1		
		LV30404-007A	LENS(AMP)	CA-MD70	1		
		LV30404-006A	LENS(AMP)	CA-MD70R	1		
	84	E406971-001SM	JVC MARK		1		
	85	LV30405-002A	LENS (MD)		1		
	86	LV30406-002A	LENS (CD)		1		
	87	E310080-010	M.VOL KNOB		1		
	88	LV30409-001A	CD FITTING		1		
	89	LE40352-001A	SPRING		1		
	90	E103056-337/S/	METAL COVER		1		

BLOCK NO. M1MM□□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	91	QYSDSG3006N	T.SCREW	REAR	5		
	92	QYSDSG3006N	T.SCREW	SIDE	2		
	95	LV40358-001A	LED CASE	FOR D7001	1		
	96	QYSBSGY3008M	SPECIAL SCREW	TUNER JACK	2		
	97	QYSBSGY3008M	SPECIAL SCREW	FOR AUX PIN JAC	1		
	98	QYSBSGY3008M	SPECIAL SCREW	FOR TAPE JACK	2		
	99	QYSBSGY3008M	SPECIAL SCREW	FOR DEGITAL IN	1		
	100	QYSBSGY3008M	SPECIAL SCREW	FOR SPEAKER JAC	2		
	101	QYSBSGY3008M	SPECIAL SCREW	FOR HEAT SINK	2		
	102	QYSBSGY3008M	SPECIAL SCREW	AMP PWB EARTH	1		
	103	QQR0216-001	NOISE FILTER	CA-MD70/70R	1		
	104	LV30743-002A	SUB HEAT SINK		1	UB,US	
		LV30743-001A	SUB HEAT SINK		1	B,E,EN,U,UT	
	105	QYSBSG3014Z	SCREW	SUB H.SINK+H.SI	2		
	106	E307572-001	FASTENER	CA-MD70/70R	1		
	107	QUQ412-0415CJ	FFC WIRE	CA-MD70R	1		
	108	LV30652-001A	SHIELD BKT	HEAT GUARD R.CO	1		
	109	QYSBSGY3008M	SPECIAL SCREW	SHIELD BKT+R.PA	2		
	110	QYSBSGG3008E	T.SCREW		1		
	111	QYWBS326505E	WASHER		1		
	112	LV30927-001A	WIRE PROTECTOR	CA-MD70	1		
⚠	113	QMF51E2-1R0-J1	FUSE	F8001(CA-MD70)	1		
	114	QYSBSGY3008M	SCREW	CA-MD70	2		
	115	LV30151-009A	UT LABEL		1	UT	
	116	QYSBSG3006E	SCREW	CA-MD70/70R	1		
		QYSBSG3006Z	SCREW	MX-MD70	1		

3CD Changer Mechanism Ass'y and Parts List

Block No. M 2 M M


:QC3-S3M
高さ
16.8±0.1mm
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■ Parts List (3CD changer Mechanism)

BLOCK NO. M2MM□□□□

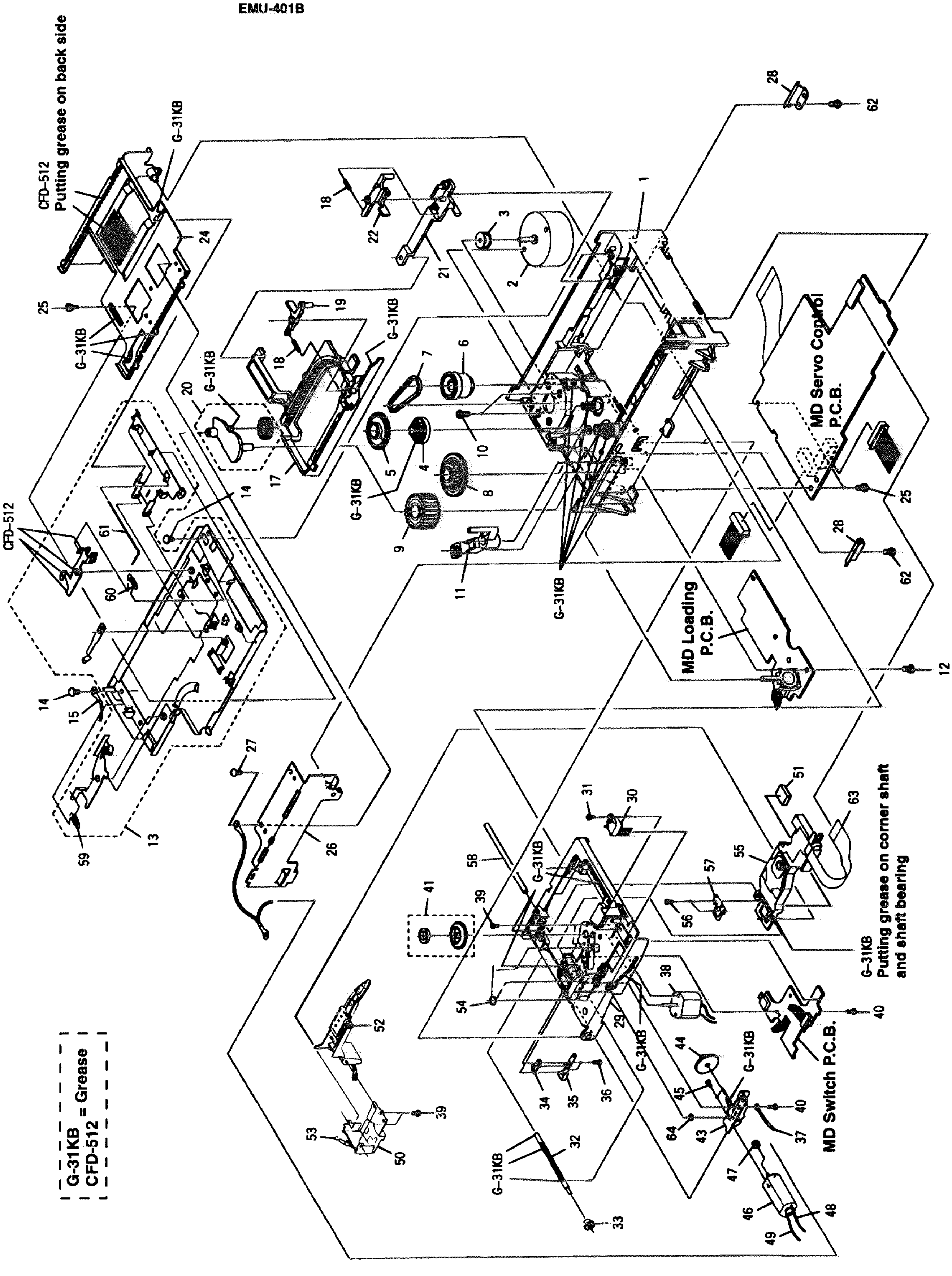
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	VKM3893-00B	CHASSIS ASS'Y		1		
	2	VKL7846-00B	CON,ARM ASS'Y		1		
	3	VKL2763-001	SLIDE CAM(L)		1		
	4	VKL2764-001	SLIDE CAM(R)		1		
	5	VKS3765-001	HOOK GEAR		1		
	6	VKS3766-001	POSTION GEAR		1		
	7	VKM3895-00C	LIFTER BASE ASS		1		
	8	VKL2766-004	LIFTER		1		
	9	VKW5245-003	DIRECTION SPRIN		1		
	10	VKS3767-001	HOOK		1		
	11	VKM3896-002	HOOK SLIDER		1		
	12	VKM3897-001	LOCK ARM		1		
	13	VKS3768-002	GUIDE RAIL		1		
	14	QYSDST2605Z	SCREW		2		
	15	VKM3898-00C	FLOATING BASE S		1		
	16	VKS3769-001	TRAY HOLDER		1		
	17	VKW5250-002	LIFT SPRING		1		
	18	VKL7881-003	PROTECTOR		1		
	19	VKS2267-00E	ACTUATOR UNIT		1		
	20	VKL2768-001	TRAY BASE		1		
	21	VKS1162-001	ACTUATOR BASE		1		
	22	MSN5G257A	MOTOR		2		
	23	QYSPSPL2606Z	SCREW		2		
	24	VKS5548-001	MOTOR PULLEY		2		
	25	VKB3000-177	BELT		2		
	26	VKS5549-001	PULLEY GEAR		2		
	27	VKS5550-001	THIRD GEAR(C)		1		
	28	VKS5551-001	THIRD GEAR(T)		1		
	29	VKS5552-001	ELAVATOR GEAR		1		
	30	VKS5553-002	M.T GEAR		1		
	31	VKS5554-001	UP.DOWN GEAR		1		
	32	VKS3770-003	SWITCH GEAR		1		
	33	VKS2269-001	ELEVATOR ARM		1		
	34	VKH5783-001	ELEVATOR PIN		1		
	35	VKW5246-001	ELEVATOR SPRING		1		
	36	VKS3772-001	M.T DETECTOR		1		
	37	QYSDST2605Z	SCREW	FOR PWB	4		
	38	VKS3773-001	FLAP		1		
	39	VKW5247-003	FLAP SPRING		1		
	40	VKS2270-00D	TRAY UNIT		1		
	41	VKS1157-002	MAIN TRAY		1		
	42	VKM3900-002	CLIC SPRING(S)		1		
	43	VKS3774-001	SPRING COVER		1		
	44	VKS1158-003	SUB TRAY		3		
	45	VKS5555-001	PLANET GEAR		1		
	46	VKS3775-001	DOOR OPNER		1		
	48	VKS1159-001	TRAY GUIDE(L)		1		
	49	VKS3777-001	SELECT SW		1		
	50	VKS1160-001	TRAY GUIDE(R)		1		
	51	QYSDST2605Z	SCREW	FOR TRAY GUIDE	3		
	52	VKS1163-003	TOP COVER		1		
	53	VKS3778-001	SELECTOR		1		
	54	VKW5248-001	SELECTOR SPRING		1		
	55	VKM3901-001	CLICK SPRING(M)		1		

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	56	QYSBSF2608Z	T.SCREW	FOR TOP COVER	4		
	57	VKZ4791-001	INSULATOR		3		
	58	VKS3779-001	STOPPER		1		
	59	VKW5249-001	ROD		1		
	60	VKL2769-003	CLAMPER BASE		1		
	61	VYH7313-003	MAGNET		1		
	62	VKL7757-001	YOKE		1		
	63	VKS3780-002	CLAMPER		1		
	64	QYSPSF2604Z	SCREW		1		
	65	QYSDST2605Z	SCREW	FOR TRAY BASE	4		
	66	VMW3699-001	F.P.C (PWB)		1		
	67	QYSDST2605Z	SCREW		1		
	68	VKS1161-002	T.MECHA CHASSIS		1		
	69	VKZ4781-001	SCREW SHAFT		1		
	70	VKS5556-001	S.S. GEAR		1		
	71	VKS5557-001	F.M. GEAR		1		
	72	PPN-13KA10C	MOTOR		1		
⚠	73	OPTIMA-610B1	C.D PICK UNIT(C		1		
	74	VKM3903-001	RACK ARM		1		
	75	QYSPSPT1714M	MINI SCREW		2		
	76	VKS5558-001	MIDDLE GEAR		1		
	77	VKM3904-001	SHAFT HOLDER		1		
	78	VKZ4248-206	MINI SCREW		1		
	79	QYSPSPL2004Z	SCREW		1		
	80	VKW5314-001	UP DOWN SPRING		1		
	81	VKS3782-001	TURN TABLE		1		
	82	MDN3BT3CSDS	SPINDLE MOTOR		1		
	83	VKZ4743-001	SPECIAL SCREW		2		
	84	WFM214025	WASHER		1		
	85	VKM3964-001	THRUST PLATE		1		

MD Mechanism Ass'y and Parts List

Block No. M 3 M M


EMU-401B
CFD-512
Putting grease on back side
G-31KB
MD Servo Control P.C.B.
MD Loading P.C.B.
MD Switch P.C.B.
G-31KB
Putting grease on corner shaft and shaft bearing
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G-31KB = Grease
CFD-512

■Parts List (MD Mechanism)

BLOCK NO. M3MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	E103156-002	LOADING BASE		1		
	2	MSN5G543C	MOTOR		1		
	3	E75984-222SS	MOTOR PULLEY		1		
	4	E409146-001	GEAR(5)		1		
	5	E409143-001	GEAR(2)		1		
	6	E409142-002	GEAR(1)		1		
	7	E75950-002	BELT		1		
	8	E409144-001	GEAR(3)		1		
	9	E409145-001	GEAR(4)		1		
	10	QYSPSPT2640Z	MINI SCREW		2		
	11	E409149-002	SW LEVER		1		
	12	QYSBSF2606M	SCREW		1		
	13	E309825-010	CAR.BASE ASSY		1		
	14	QYSBSFG2606Z	SCREW		3		
	15	EWPZ01-027	TERMINAL WIRE		1		
	17	E208853-001	RACK		1		
	18	E409153-002	SPRING		2		
	19	E409152-002	HOOK(L)		1		
	20	E409195-002	P.GEAR ASSY		1		
	21	E309824-001	LINK		1		
	22	E409154-002	HOOK(R)		1		
	24	E309829-004KP	S.BKT (R) ASSY		1		
	25	E409163-001	SPECIAL SCREW		3		
	26	E409164-003	S.BKT (L) ASSY		1		
	27	QYSBST2606Z	T.SCREW		1		
	28	LV40591-001A	BRACKET		2		
	29	E103258-001	CHASSIS BAS		1		
	30	QSW0508-001	PUSH SW		1		
	31	QYSPSGT2035M	MINI SCREW		1		
	32	E409553-001	LEAD SCREW		1		
	33	E409542-001	GEAR F.LEAD		1		
	34	E409548-001	TH.PLATE		1		
	35	E409135-001	THRUST SPRING		1		
	36	E409332-001	SPECIAL SCREW		2		
	37	EWT025-008	TERMINAL WIRE		1		
	38	FF-110PH-08280	SP.MOTOR		1		
	39	QYSPSPU1720M	MINI SCREW		4		
	40	QYSPST2606Z	SCREW		2		
	41	LE30470-001A	TURN TABLE		1		
	43	E409129-005	M.BKT ASSY		1		
	44	E409133-001	MIDDLE GEAR		1		
	45	QYSPSPU1420Z	MINI SCREW		2		
	46	FF-N30VA-09210	FEED MOTOR		1		
	47	E409550-001	F.M.GEAR		1		
	48	QWE269-06BB	WIRE ASSY		1		
	49	QWE260-05BB	WIRE ASSY		1		
	50	E310179-001	H.JOINT		1		
	51	LE30001-008A	SPACER		1		
	52	HMD-7B	HEAD UNIT		1		
	53	E409158-004	SPRING		1		
	54	E409165-001	M.SPRING		1		
	55	KMS-260C	MD PICK UNIT		1		
	56	QYSPSPT1414Z	SCREW		2		
	57	E408255-003	RACK SPRING		1		
	58	E409141-001	GUIDE SHAFT		1		
	59	E409158-002	SPRING		1		
	60	E409158-003	SPRING		1		
	61	E409167-001	SPRING BAR		1		
	62	QYSBSF2606M	SCREW		2		
	63	EMW40008-001	FPC CABLE		1		
	64	QYWFM266013	WASHER		1		

Electrical Parts List

■Main/Power Supply P.C.B.

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN301	QGD2501C1-05Z	SOCKET I.M		
	CN361	QGB2510J1-15	CONNECTOR		
	CN362	QGB2510J1-07	CONNECTOR		
	CN902	QGA2501C1-05	CONNECTOR		
	CN912	QGB2510K2-10	CONNECTOR		
	CN931	QGB2510J1-11	CONNECTOR		
	CN932	QGB2510J1-10	CONNECTOR		
	CN933	QGB2510J1-06	CONNECTOR		
	CN934	QGB2510J1-09	CONNECTOR		
	CN944	QGB2510K2-09	CONNECTOR		
	CN991	QGA2501C1-03	3P CONNECTOR		
	CP901	ICP-N25-T	ICP I.M		
⚠	CP911	ICP-N25-T	ICP I.M		
⚠	CP921	ICP-N25-T	ICP I.M		B,E,EN
⚠	CP921	ICP-N25-T	ICP I.M		U,UB,US,UT
	C1001	QFLC1HJ-223Z	M CAPACITOR	.022MF 5% 50V	U,UB,US,UT
	C1001	QFLC1HJ-223Z	M CAPACITOR	.022MF 5% 50V	B,E,EN
	C1002	QDYB1CM-103Y	C CAPACITOR		U,UB,US,UT
	C1002	QDYB1CM-103Y	C CAPACITOR		B,E,EN
	C1003	QETN1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C1004	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C1005	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C1006	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C1007	QCS11HJ-100	C CAPACITOR	10PF 5% 50V	
	C1008	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C1009	QET41HM-226	E CAPACITOR	22MF 20% 50V	
	C1010	QET41HM-475	E CAPACITOR	4.7MF 20% 50V	
	C1101	QDGB1HK-102Y	C CAPACITOR		B,E,EN
	C1101	QDGB1HK-102Y	C CAPACITOR		U,UB,US,UT
	C2001	QFLC1HJ-223Z	M CAPACITOR	.022MF 5% 50V	U,UB,US,UT
	C2001	QFLC1HJ-223Z	M CAPACITOR	.022MF 5% 50V	B,E,EN
	C2002	QDYB1CM-103Y	C CAPACITOR		U,UB,US,UT
	C2002	QDYB1CM-103Y	C CAPACITOR		B,E,EN
	C2003	QETN1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C2004	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C2005	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C2006	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C2007	QCS11HJ-100	C CAPACITOR	10PF 5% 50V	
	C2008	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C2009	QET41HM-226	E CAPACITOR	22MF 20% 50V	
	C2010	QET41HM-475	E CAPACITOR	4.7MF 20% 50V	
	C2101	QDGB1HK-102Y	C CAPACITOR		B,E,EN
	C2101	QDGB1HK-102Y	C CAPACITOR		U,UB,US,UT
	C3001	QET41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C3003	QET41HM-474	E CAPACITOR	.47MF 20% 50V	
	C3004	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C3005	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C3010	QETN1HM-224Z	E CAPACITOR	.22MF 20% 50V	
	C3011	QFLC1HJ-103Z	M CAPACITOR	.010MF 5% 50V	
	C3101	QDVB1EZ-103Y	C CAPACITOR		
	C9001	QDVB1EZ-103Y	C CAPACITOR		
	C9002	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C9003	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C9101	QDVB1EZ-103Y	C CAPACITOR		
	C9102	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C9103	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C9201	QDVB1EZ-103Y	C CAPACITOR		
	C9202	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C9203	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C9301	QDVB1EZ-103Y	C CAPACITOR		
	C9302	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C9303	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C9401	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C9402	QDYB1CM-103Y	C CAPACITOR		
	C9403	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C9501	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C9502	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C9503	QET41HM-226	E CAPACITOR	22MF 20% 50V	
	C9504	QETN1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C9505	QET41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C9506	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C9508	QETN1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C9601	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C9602	QETM1HM-477	E CAPACITOR	470MF 20% 50V	
	C9603	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C9604	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C9605	QFV41HJ-103	TF CAPACITOR	.010MF 5% 50V	
	C9701	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C9704	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C9705	QETM1EM-688	E CAPACITOR	6800MF 20% 25V	
	C9707	QETM1EM-688	E CAPACITOR	6800MF 20% 25V	
	C9801	QFV41HJ-683	TF CAPACITOR	.068MF 5% 50V	
	C9804	QFV41HJ-683	TF CAPACITOR	.068MF 5% 50V	
	C9805	QETM1VM-228	E.CAPA	2200MF 20% 35V	
	C9901	QEZ0428-228	E.CAPA.	2200MF	
	C9902	QEZ0428-228	E.CAPA.	2200MF	
	C9903	QFV72AJ-104Z	M.CAPA. I.M	.10MF 5% 100V	
	C9904	QFV72AJ-104Z	M.CAPA. I.M	.10MF 5% 100V	
	D1001	1SS133-T2	DIODE		
	D2001	1SS133-T2	DIODE		
	D3001	MTZJ4.3B-T2	ZENER DIODE		
	D3002	1SS133-T2	DIODE		
	D3003	MTZJ2.4B-T2	Z.DIODE I.M		
	D3101	1SS133-T2	DIODE		
	D3201	1SS133-T2	DIODE		
	D9001	MTZJ6.2C-T2	ZENER DIODE		
	D9002	MTZJ7.5C-T2	ZENER DIODE		
	D9101	MTZJ6.2B-T2	ZENER DIODE		
	D9102	MTZJ6.8C-T2	Z DIODE I/M		
	D9201	MTZJ9.1B-T2	ZENER DIODE		
	D9202	MTZJ10C-T2	Z.DIODE I.M		
	D9203	1SS133-T2	DIODE		
	D9301	MTZJ13B-T2	Z DIODE		
	D9302	MTZJ15A-T2	Z DIODE		
	D9401	MTZJ5.6C-T2	ZENER DIODE		
	D9501	1SS133-T2	DIODE		
	D9502	1SS133-T2	DIODE		
	D9503	1SS133-T2	DIODE		
	D9504	MTZJ5.1C-T2	ZENER DIODE		
	D9505	1SS133-T2	DIODE		

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⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	D9506	1SS133-T2	DIODE		
	D9507	1SS133-T2	DIODE		
	D9508	1SS133-T2	DIODE		
	D9509	1SS133-T2	DIODE		
	D9601	1SR35-100A-T5	SI DIODE		
	D9602	MTZJ27B-T2	Z. DIODE I/M		
⚠	D9701	1SR35-100A-T5	SI DIODE		
⚠	D9702	1SR35-100A-T5	SI DIODE		
⚠	D9703	1SR35-100A-T5	SI DIODE		
⚠	D9704	1SR35-100A-T5	SI DIODE		
⚠	D9705	1SR35-100A-T5	SI DIODE		
⚠	D9706	1SR35-100A-T5	SI DIODE		
⚠	D9707	1SR35-100A-T5	SI DIODE		
⚠	D9708	1SR35-100A-T5	SI DIODE		
⚠	D9801	1SR35-100A-T5	SI DIODE		
⚠	D9802	1SR35-100A-T5	SI DIODE		
⚠	D9803	1SR35-100A-T5	SI DIODE		
⚠	D9804	1SR35-100A-T5	SI DIODE		
⚠	D9901	1N5402M-20	DIODE		
⚠	D9902	1N5402M-20	DIODE		
⚠	D9903	1N5402M-20	DIODE		
⚠	D9904	1N5402M-20	DIODE		
	EP901	E409182-001SM	GRAND TERMINAL		
	EP971	QNZ0136-001Z	EARTH PLATE		
	EP972	QNZ0136-001Z	EARTH PLATE		
⚠	FT801	QNG0020-001Z	FUSE CLIP		U,UB,US,UT
⚠	FT802	QNG0020-001Z	FUSE CLIP		U,UB,US,UT
⚠	FT911	QNG0020-001Z	FUSE CLIP	FOR F9001	
⚠	FT912	QNG0020-001Z	FUSE CLIP	FOR F9001	
⚠	FT921	QNG0020-001Z	FUSE CLIP	FOR F9002	
⚠	FT922	QNG0020-001Z	FUSE CLIP	FOR F9002	
⚠	FT991	QNG0020-001Z	FUSE CLIP	FOR F9991	
⚠	FT992	QNG0020-001Z	FUSE CLIP	FOR F9991	
⚠	IC101	TDA7294	I.C.		
⚠	IC201	TDA7294	I.C.		
	J3001	QNB0083-001	SPK TERMINAL		U,UB,US,UT
	J3001	QNB0084-001	SPK TERMINAL		J
	J3001	QNB0083-001	SPK TERMINAL		B,E,EN
	J3101	QNS0072-001	HEADPHONE JACK		
	K3101	QQR0779-001Z	INDUCTOR		J
	L1001	QQL2005-R45	INDUCTOR		
	L1101	QQL231K-4R7Y	INDUCTOR		
	L2001	QQL2005-R45	INDUCTOR		
	L2101	QQL231K-4R7Y	INDUCTOR		
	Q1001	2SA970/GL/-T	TRANSISTOR		
	Q1002	2SD2144S/VW/-T	TRANSISTOR		
	Q2001	2SA970/GL/-T	TRANSISTOR		
	Q2002	2SD2144S/VW/-T	TRANSISTOR		
	Q3001	2SC945/QP/-T	TRANSISTOR		
	Q3002	2SK301/PQ/-T	FET I/M		
	Q3003	2SC945/QP/-T	TRANSISTOR		B,E,EN
	Q3003	2SC945/QP/-T	TRANSISTOR		U,UB,US,UT
	Q3003	DTC143TS-T	TRANSISTOR		J
	Q3004	2SA733/QP/-T	TRANSISTOR		
	Q3005	2SC1740S/RS/-T	TRANSISTOR		

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⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
⚠	Q9001	2SD1944/JK/	TRANSISTOR		
⚠	Q9101	2SD1944/JK/	TRANSISTOR		
⚠	Q9201	2SD1944/JK/	TRANSISTOR		
	Q9203	DTA114YS-T	TRANSISTOR		
	Q9204	DTC114YS-T	TRANSISTOR		
⚠	Q9301	2SD2394/EF/	TRANSISTOR		
	Q9302	DTA114YS-T	TRANSISTOR		
⚠	Q9401	2SD2394/EF/	TRANSISTOR		
	Q9501	DTA144ES-T	TR I/M		
	Q9502	DTC144ESA-T	D.TR.I.M		
	Q9503	DTA144ESA-T	D.TRANSISTOR		
	Q9504	DTC114YSA-T	D.TR.I.M		
	Q9505	DTC114YSA-T	D.TR.I.M		
	Q9506	DTC114YSA-T	D.TR.I.M		
	Q9601	2SC2060/QR/-T	TR.I/M		
	RY301	QSK0057-001	RELAY		
	R1001	QRL01DJ-122X	OMF RESISTOR	1.2K 5% 1/1W	
	R1002	QRJ146J-681X	UNF C RES I/M	680 5% 1/4W	
	R1003	QRZ9006-4R7X	F RESISTOR	4.7 1/0W	B,E,EN
	R1003	QRZ9006-4R7X	F RESISTOR	4.7 1/0W	U,UB,US,UT
	R1004	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1005	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R1006	QRT01DJ-R22X	UNF.MF.RES.I.M	5% 1/1W	
	R1007	QRT01DJ-R22X	UNF.MF.RES.I.M	5% 1/1W	
	R1008	QRJ146J-561X	UNF.C.RES. I/M	560 5% 1/4W	
	R1009	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R1010	QRJ143J-100X	UNF.C.RES.I.M	10 5% 1/4W	
	R1011	QRZ9042-2R2X	F.RES. I.M	2.2 1/0W	
	R1012	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1013	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R1014	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R1015	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1016	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R1017	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R1018	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1019	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1020	QRJ146J-681X	UNF C RES I/M	680 5% 1/4W	
	R1021	QRL01DJ-122X	OMF RESISTOR	1.2K 5% 1/1W	
	R2001	QRL01DJ-122X	OMF RESISTOR	1.2K 5% 1/1W	
	R2002	QRJ146J-681X	UNF C RES I/M	680 5% 1/4W	
	R2003	QRZ9006-4R7X	F RESISTOR	4.7 1/0W	B,E,EN
	R2003	QRZ9006-4R7X	F RESISTOR	4.7 1/0W	U,UB,US,UT
	R2004	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R2005	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R2006	QRT01DJ-R22X	UNF.MF.RES.I.M	5% 1/1W	
	R2007	QRT01DJ-R22X	UNF.MF.RES.I.M	5% 1/1W	
	R2008	QRJ146J-561X	UNF.C.RES. I/M	560 5% 1/4W	
	R2009	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R2010	QRJ143J-100X	UNF.C.RES.I.M	10 5% 1/4W	
	R2011	QRZ9042-2R2X	F.RES. I.M	2.2 1/0W	
	R2012	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R2013	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R2014	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R2015	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R2016	QRE141J-823Y	C RESISTOR	82K 5% 1/4W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R2017	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R2018	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R2019	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R2020	QRJ146J-681X	UNF C RES I/M	680 5% 1/4W	
	R2021	QRL01DJ-122X	OMF RESISTOR	1.2K 5% 1/1W	
	R3001	QRZ9005-271X	F RESISTOR	270 1/0W	J
	R3002	QRZ9005-271X	F RESISTOR	270 1/0W	U,UB,US,UT
	R3002	QRZ9005-680X	F RESISTOR	68 1/0W	J
	R3002	QRZ9005-271X	F RESISTOR	270 1/0W	B,E,EN
	R3003	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R3004	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R3005	QRE141J-334Y	C RESISTOR	330K 5% 1/4W	
	R3006	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R3007	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R3008	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R3009	QRE141J-105Y	C RESISTOR	1.0M 5% 1/4W	
	R3010	QRE141J-475Y	C RESISTOR	4.7M 5% 1/4W	
	R3011	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R3012	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R3013	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R3014	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R3015	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R3016	QRE141J-153Y	C RESISTOR	15K 5% 1/4W	
	R3017	QRZ9005-271X	F RESISTOR	270 1/0W	U,UB,US,UT
	R3017	QRJ146J-221X	F RESISTOR	220 5% 1/4W	J
	R3017	QRZ9005-271X	F RESISTOR	270 1/0W	B,E,EN
	R3018	QRJ146J-4R7X	UNF.C.RESISTOR	4.7 5% 1/4W	J
	R8001	QRE141J-103Y	CARBON RESISTOR	10K 5% 1/4W	U,UB,US,UT
	R8002	QRE141J-103Y	CARBON RESISTOR	10K 5% 1/4W	U,UB,US,UT
	R8003	QRE141J-103Y	CARBON RESISTOR	10K 5% 1/4W	U,UB,US,UT
	R9001	QRZ9044-335	COMP.RESISTOR	3.3M 1/0W	J
	R9002	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R9004	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R9101	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R9104	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R9201	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R9202	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
⚠	R9204	QRJ146J-4R7X	UNF.C.RESISTOR	4.7 5% 1/4W	J
	R9205	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R9301	QRJ146J-4R7X	C RESISTOR	4.7 5% 1/4W	
	R9302	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R9305	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R9401	QRJ146J-100X	UNF.C RESISTOR	10 5% 1/4W	
	R9402	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R9501	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R9502	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R9503	QRE141J-563Y	C RESISTOR	56K 5% 1/4W	
	R9504	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R9505	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R9506	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R9507	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R9508	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R9509	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R9510	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R9512	QRE141J-474Y	C RESISTOR	470K 5% 1/4W	

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⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R9601	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R9602	QRZ9038-100X	F.RES. I.M	10 1/0W	
⚠	S8001	QSW0524-001	LEVER SWITCH		U,UB,US,UT
⚠	TB901	QNZ0079-001Z	TAB I.M		
⚠	TB902	QNZ0079-001Z	TAB I.M		
	W 311	QUM025-26DGZ3	EF FLAT		

■ Input P.C.B.

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN631	QGB2510K2-15	CONNECTOR		
	CN632	QGB2510K2-07	CONNECTOR		
	CN633	QGF1024C1-21S	CONNECTOR		
	CN634	QGA2501C1-03	3P CONNECTOR		
	CN635	QGF1016C1-07	CONNECTOR		
	CN636	QGF1016C1-11	CONNECTOR		
	CN637	QGF1205C1-04	CONNECTOR		B,E,EN
	CN638	QGF1205C1-10	CONNECTOR		
	CN671	QGF1205C1-13	CONNECTOR		
	CN681	QGF1205C1-14	CONNECTOR		
	C6101	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6103	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6104	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6105	QETN1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C6106	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6107	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6108	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C6109	QETN1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C6110	QFV41HJ-183	TF CAPACITOR	.018MF 5% 50V	
	C6111	QFV41HJ-223	TF CAPACITOR	.022MF 5% 50V	
	C6112	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C6113	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C6114	QFLC1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C6115	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6116	QFLC1HJ-472Z	M CAPACITOR	4700PF 5% 50V	
	C6117	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C6118	QFLC1HJ-104Z	M CAPACITOR	.10MF 5% 50V	
	C6119	QFLC1HJ-102Z	M CAPACITOR	1000PF 5% 50V	
	C6120	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6123	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	U,UB,US,UT
	C6123	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	B,E,EN
	C6126	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6127	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6130	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6141	QFLC1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C6201	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6203	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6204	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6205	QETN1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C6206	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6207	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6208	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C6209	QETN1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C6210	QFV41HJ-183	TF CAPACITOR	.018MF 5% 50V	
	C6211	QFV41HJ-223	TF CAPACITOR	.022MF 5% 50V	
	C6212	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C6213	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C6214	QFLC1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C6215	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6216	QFLC1HJ-472Z	M CAPACITOR	4700PF 5% 50V	
	C6217	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
	C6218	QFLC1HJ-104Z	M CAPACITOR	.10MF 5% 50V	
	C6219	QFLC1HJ-102Z	M CAPACITOR	1000PF 5% 50V	
	C6220	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6223	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	B,E,EN

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C6223	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	U,UB,US,UT
	C6226	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6227	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6230	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6241	QFLC1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C6301	QDYB1CM-103Y	C CAPACITOR		
	C6302	QDYB1CM-103Y	C CAPACITOR		
	C6304	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6305	QFLC1HJ-223Z	M CAPACITOR	.022MF 5% 50V	
	C6306	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C6307	QET41HM-226	E CAPACITOR	22MF 20% 50V	
	C6308	QET41HM-475	E CAPACITOR	4.7MF 20% 50V	
	C6309	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6310	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C6311	QCZ0202-155Z	ML C CAP I/M	1.5MF	
	C6312	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C6313	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C6314	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6315	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6322	QET41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C6324	QDYB1CM-103Y	C CAPACITOR		
	C6325	QDYB1CM-103Y	C CAPACITOR		
	C6326	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6335	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C6336	QET41AM-108	E CAPACITOR	1000MF 20% 10V	
	C6351	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6352	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6353	QDYB1CM-103Y	C CAPACITOR		
	C6354	QDYB1CM-103Y	C CAPACITOR		
	C6355	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6356	QET41EM-476	E CAPACITOR	47MF 20% 25V	
	C6702	QDYB1CM-103Y	C CAPACITOR		
	C6703	QDYB1CM-103Y	C CAPACITOR		
	C6705	QET41AM-477	E CAPACITOR	470MF 20% 10V	
	C6706	QETB0JM-228	E CAPACITOR	2200MF 20% 6.3V	
	C6708	QCSB1HK-6R8Y	C CAPACITOR	6.8PF 10% 50V	
	C6709	QDCB1HK-4R7Y	C CAPACITOR		
	C6710	QDGB1HK-102Y	C CAPACITOR		
	C6711	QDGB1HK-102Y	C CAPACITOR		
	C6712	QDGB1HK-102Y	C CAPACITOR		
	C6713	QDGB1HK-102Y	C CAPACITOR		
	C6714	QDGB1HK-102Y	C CAPACITOR		
	C6715	QDGB1HK-102Y	C CAPACITOR		
	C6716	QCZ0202-155Z	ML C CAP I/M	1.5MF	
	C6717	QCZ0202-155Z	ML C CAP I/M	1.5MF	
	C6718	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C6720	QDYB1CM-103Y	C CAPACITOR		
	D6101	MA723-T2	SI DIODE		
	D6201	MA723-T2	SI DIODE		
	D6307	MTZJ5.1B-T2	ZENER DIODE		
	D6308	MTZJ11A-T2	Z.DIODE I.M		
	D6309	1SS133-T2	DIODE		
	D6310	1SS133-T2	DIODE		
	D6311	1SS133-T2	DIODE		
	D6322	1SS133-T2	DIODE		

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	D6351	MTZJ10C-T2	Z.DIODE I.M		
	D6352	MTZJ6.2B-T2	ZENER DIODE		
	D6353	1SS133-T2	DIODE		
	D6354	1SS133-T2	DIODE		
	D6355	1SS133-T2	DIODE		
	D6356	1SS133-T2	DIODE		
	D6357	1SS133-T2	DIODE		
	D6358	1SS133-T2	DIODE		
	D6704	1SS133-T2	DIODE		
	D6705	1SS133-T2	DIODE		
	D6706	1SS133-T2	DIODE		
	IC671	TDA7439	IC		
	IC672	NJM4580D	IC		
	IC673	TC4066BP/N/	IC		
	IC674	TC74HC02AP	IC		
	IC675	MN101C15FAX2	IC		
	IC676	NJM4580D	IC		
	J6301	QNN0068-001	JACK ASSY		
	J6302	QNN0068-001	JACK ASSY		
	J6303	QNN0068-001	JACK ASSY		
	J6310	GP1F32R	OPTICAL JACK		
	K6304	QQR0779-001Z	INDUCTOR		J
	K6305	QQR0779-001Z	INDUCTOR		J
	K6306	QQR0779-001Z	INDUCTOR		J
	K6310	QQR0779-001Z	INDUCTOR		J
	K6311	QQR0779-001Z	INDUCTOR		J
	K6334	QQR0779-001Z	INDUCTOR		
	K6345	QQR0779-001Z	INDUCTOR		
	K6347	QQR0779-001Z	INDUCTOR		J
	K6348	QQR0779-001Z	INDUCTOR		J
	L6141	QQR0590-001	FILTER		
	L6241	QQR0590-001	FILTER		
	L6801	QQL231K-4R7Y	INDUCTOR		
	Q6101	2SC2785/FE/-T	TRANSISTOR		
	Q6102	2SC2001/LK/-T	TRANSISTOR		
	Q6141	2SD2144S/VW/-T	TRANSISTOR I/M		
	Q6201	2SC2785/FE/-T	TRANSISTOR		
	Q6202	2SC2001/LK/-T	TRANSISTOR		
	Q6241	2SD2144S/VW/-T	TRANSISTOR I/M		
	Q6301	2SC2001/LK/-T	TRANSISTOR		
	Q6302	2SC2001/LK/-T	TRANSISTOR		
	Q6303	DTC144ESA-T	D.TR.I.M		
	Q6304	DTC114YSA-T	D.TR.I.M		
	Q6305	2SA934/QR/-T	TR I/M		
	Q6320	DTA144ESA-T	D.TRANSISTOR		
	Q6330	DTA144ESA-T	D.TRANSISTOR		
	Q6341	DTA144ESA-T	D.TRANSISTOR		
	Q6351	2SC2785/FE/-T	TRANSISTOR		
	Q6352	2SC2785/FE/-T	TRANSISTOR		
	Q6353	DTA114YS-T	TR I/M		
	Q6354	DTC114YS-T	TR I.M		
	R6101	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R6102	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R6103	QRE141J-821Y	C RESISTOR	820 5% 1/4W	
	R6104	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R6105	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R6106	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R6107	QRE141J-823Y	C RESISTOR	82K 5% 1/4W	
	R6108	QRE141J-162Y	C RESISTOR	1.6K 5% 1/4W	
	R6109	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R6110	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6111	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6112	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6114	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R6115	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R6117	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R6118	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R6119	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R6120	QRE141J-393Y	C RESISTOR	39K 5% 1/4W	
	R6124	QRE141J-224Y	C RESISTOR	220K 5% 1/4W	
	R6125	QRE141J-113Y	C RESISTOR	11K 5% 1/4W	
	R6126	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6127	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	
	R6128	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6130	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6131	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R6132	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6133	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R6140	QRE141J-182Y	C RESISTOR	1.8K 5% 1/4W	
	R6141	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R6142	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R6201	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R6202	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R6203	QRE141J-821Y	C RESISTOR	820 5% 1/4W	
	R6204	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6205	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R6206	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R6207	QRE141J-823Y	C RESISTOR	82K 5% 1/4W	
	R6208	QRE141J-162Y	C RESISTOR	1.6K 5% 1/4W	
	R6209	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R6210	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6211	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6212	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6214	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R6215	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R6217	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R6218	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R6219	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R6220	QRE141J-393Y	C RESISTOR	39K 5% 1/4W	
	R6224	QRE141J-224Y	C RESISTOR	220K 5% 1/4W	
	R6225	QRE141J-113Y	C RESISTOR	11K 5% 1/4W	
	R6226	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6227	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	
	R6228	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6230	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6231	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R6232	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6233	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R6240	QRE141J-182Y	C RESISTOR	1.8K 5% 1/4W	
	R6241	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R6242	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R6303	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6304	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6305	QRE141J-271Y	C RESISTOR	270 5% 1/4W	
	R6306	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6307	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6311	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6324	QRJ146J-101X	UF RESISTOR	100 5% 1/4W	
	R6325	QRJ146J-1R0X	UNF C RESISTOR	1.0 5% 1/4W	
	R6330	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6335	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R6336	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R6338	QRE141J-333Y	C RESISTOR	33K 5% 1/4W	
	R6341	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6351	QRZ9005-470X	F RES I M	47 1/0W	
	R6352	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6353	QRJ146J-101X	UF RESISTOR	100 5% 1/4W	
	R6354	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R6355	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6356	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6701	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6702	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6703	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6704	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6705	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6706	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6707	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6708	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6709	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6710	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6711	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6712	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6713	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6714	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6715	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6716	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6717	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	B,E,EN
	R6718	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6719	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	B,E,EN
	R6721	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6722	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R6723	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R6724	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R6725	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R6726	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R6727	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R6731	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6732	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6733	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6734	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6735	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6736	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6737	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6738	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6739	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R6740	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6741	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6743	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6744	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6745	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6746	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6747	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6748	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6749	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6750	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6751	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6752	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6753	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6754	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6755	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6756	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6757	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6758	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R6759	QRE141J-221Y	C RESISTOR	220 5% 1/4W	B,E,EN,J
	R6761	QRE141J-221Y	C RESISTOR	220 5% 1/4W	J,U,UB,US,UT
	R6763	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R6764	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R6765	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6766	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R6767	QRE141J-470Y	C RESISTOR	47 5% 1/4W	
	R6768	QRE141J-105Y	C RESISTOR	1.0M 5% 1/4W	
	R6770	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R6772	QRE141J-331Y	C RESISTOR	330 5% 1/4W	J
	W6001	QJQ004-031701	WIRE		
	X6701	QAX0525-001Z	CRYSTAL		

■Front/Operation Swith P.C.B.

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN761	QGF1205F1-13	CONNECTOR		
	CN762	QGF1016F1-15	15FFC CONNECTOR		
	CN781	QGF1205F1-12	CONNECTOR		
	CN861	QGF1210G1-14	CONNECTOR		
	CN871	QGF1210G1-12	CONNECTOR		
	CN921	QGB2510K2-11	CONNECTOR		
	CN923	QGB2510K2-06	CONNECTOR		
	C7001	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C7002	QDYB1CM-103Y	C CAPACITOR		
	C7003	QCS11HJ-330	C CAPACITOR	33PF 5% 50V	
	C7004	QCS11HJ-330	C CAPACITOR	33PF 5% 50V	
	C7007	QCZ0202-155Z	ML C CAP I/M	1.5MF	
	C7008	QET41CM-107	E CAPACITOR	100MF 20% 16V	
	C7009	QDVB1EZ-223Y	C CAPACITOR		
	C7010	QDVB1EZ-223Y	C CAPACITOR		
	C8001	QDYB1CM-103Y	C CAPACITOR		
	C8002	QDYB1CM-103Y	C CAPACITOR		
	C8003	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C8004	QDGB1HK-102Y	C CAPACITOR		
	C8006	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C8501	QDYB1CM-103Y	C CAPACITOR		
	C8502	QDYB1CM-103Y	C CAPACITOR		
	D7001	SELU1E10CXM	LED	FOR JOG(BLUE)	
	D7002	1SS133-T2	DIODE		
	D7003	1SS133-T2	DIODE		
	D7005	1SS133-T2	DIODE		
	D7006	1SS133-T2	DIODE		
	D7010	1SS133-T2	DIODE		
	D7011	1SS133-T2	DIODE		
	D7012	1SS133-T2	DIODE		
	D7013	1SS133-T2	DIODE		
	D8001	1SS133-T2	DIODE		
	D8002	SLR-342VC-T	LED I.M	RED	
	D8003	SLR-342VC-T	LED I.M	RED	
	D8004	SLR-342MC-T	LED I.M	ORENGE	
	D8005	SLR-342MC-T	LED I.M	GREEN :SOUND	
	D8006	SLR-342VC-T	LED I.M	RED :BASS	
	D8007	SPR-325MVW/L/-T	LED	RED	
	D8008	TLOG116-T	LED		
	D8009	TLOG116-T	LED		
	D8010	TLOG116-T	LED		
	D8011	1SS133-T2	DIODE		
	D8501	1SS133-T2	DIODE		
	IC701	MN101C10AAY	IC		
	IC801	GP1U281X	IR DETECT UNIT		
	JS801	QSW0500-001	ROTALY SW		
	JS851	QSW0469-001	ROTARY ENCORDER		
	PL771	QLL0050-001	LAMP		
	PL772	QLL0050-001	LAMP		
	PL773	QLL0050-001	LAMP		
	Q7001	DTC114ESA-T	D.TRANSISTOR		
	Q7002	DTC114ESA-T	D.TRANSISTOR		
	Q7003	2SA1175/FE/-T	TRANSISTOR		
	Q7004	DTC144ES-T	TR I.M		
	Q7005	2SC2060/QR/-T	TR.I/M		

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	Q8001	DTC114ESA-T	D.TRANSISTOR		
	Q8002	DTC114ESA-T	D.TRANSISTOR		
	Q8003	DTC114ESA-T	D.TRANSISTOR		
	Q8004	DTC114ESA-T	D.TRANSISTOR		
	Q8005	DTC114ESA-T	D.TRANSISTOR		
	Q8006	DTC114ESA-T	D.TRANSISTOR		
	Q8007	2SA1175/FE/-T	TRANSISTOR		
	Q8008	2SA1175/FE/-T	TRANSISTOR		
	Q8009	2SA1175/FE/-T	TRANSISTOR		
	Q8010	2SA1175/FE/-T	TRANSISTOR		
	Q8011	2SA1175/FE/-T	TRANSISTOR		
	Q8012	2SA1175/FE/-T	TRANSISTOR		
	Q8013	2SD2144S/VW/-T	TRANSISTOR I/M		
	R7002	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R7003	QRE141J-201Y	C.RES. I.M	200 5% 1/4W	
	R7004	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R7009	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7010	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7012	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7013	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7014	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7015	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7016	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7018	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7019	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7020	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7021	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7022	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7023	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7024	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R7025	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7026	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7027	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7028	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7029	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7030	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7031	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7032	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7033	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7034	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7035	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7036	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7037	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7038	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7039	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7040	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7043	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R7044	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R7046	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R7047	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R7048	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R7049	QRE141J-105Y	C RESISTOR	1.0M 5% 1/4W	
	R7050	QRJ146J-3R9X	UNF.C.RES. I/M	3.9 5% 1/4W	
	R7055	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R7056	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R7057	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R7060	QRE141J-470Y	C RESISTOR	47 5% 1/4W	
	R7061	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R7701	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R7702	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R7703	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8001	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8002	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8003	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R8004	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R8005	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R8006	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R8007	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R8008	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R8009	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8010	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8011	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R8012	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R8013	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R8014	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R8015	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R8016	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R8017	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8018	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8019	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R8020	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R8021	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R8022	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R8023	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R8024	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R8025	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8026	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8027	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R8028	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R8029	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R8030	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R8031	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R8032	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R8033	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R8034	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R8035	QRE141J-181Y	C RESISTOR	180 5% 1/4W	
	R8036	QRE141J-181Y	C RESISTOR	180 5% 1/4W	
	R8037	QRE141J-181Y	C RESISTOR	180 5% 1/4W	
	R8038	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R8039	QRE141J-271Y	C RESISTOR	270 5% 1/4W	
	R8040	QRE141J-201Y	C.RES. I.M	200 5% 1/4W	
	R8047	QRE141J-151Y	C RESISTOR	150 5% 1/4W	
	R8048	QRE141J-151Y	C RESISTOR	150 5% 1/4W	
	R8049	QRE141J-151Y	C RESISTOR	150 5% 1/4W	
	R8050	QRE141J-111Y	C.RES. I.M	110 5% 1/4W	
	R8051	QRE141J-111Y	C.RES. I.M	110 5% 1/4W	
	R8052	QRE141J-111Y	C.RES. I.M	110 5% 1/4W	
	R8053	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R8055	QRE141J-271Y	C RESISTOR	270 5% 1/4W	
	R8501	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R8502	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8503	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R8504	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R8505	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R8506	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R8507	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R8508	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R8509	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R8510	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8511	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R8512	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R8513	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R8514	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R8515	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R8516	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R8517	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	S8001	QSW0651-001Z	TACT SWITCH	REPEAT(MD)	
	S8002	QSW0651-001Z	TACT SWITCH	AUX	
	S8003	QSW0651-001Z	TACT SWITCH	TAPE	
	S8004	QSW0651-001Z	TACT SWITCH	>	
	S8005	QSW0651-001Z	TACT SWITCH	+	
	S8006	QSW0651-001Z	TACT SWITCH	<	
	S8007	QSW0651-001Z	TACT SWITCH	FM/AM	
	S8008	QSW0651-001Z	TACT SWITCH	-	
	S8009	QSW0651-001Z	TACT SWITCH	FF(MD)	
	S8010	QSW0651-001Z	TACT SWITCH	PLAY/PAUSE(MD)	
	S8011	QSW0651-001Z	TACT SWITCH	RWD(MD)	
	S8012	QSW0651-001Z	TACT SWITCH	CD REC(MD)	
	S8013	QSW0651-001Z	TACT SWITCH	LISTENING(MD)	
	S8014	QSW0651-001Z	TACT SWITCH	BEST HIT(MD)	
	S8015	QSW0651-001Z	TACT SWITCH	REC PAUSE(MD)	
	S8016	QSW0651-001Z	TACT SWITCH	EJECT(MD)	
	S8017	QSW0651-001Z	TACT SWITCH	STOP(MD)	
	S8018	QSW0651-001Z	TACT SWITCH	EJECT1(CD)	
	S8019	QSW0651-001Z	TACT SWITCH	EJECT2(CD)	
	S8020	QSW0651-001Z	TACT SWITCH	EJECT3(CD)	
	S8021	QSW0651-001Z	TACT SWITCH	BASS	
	S8022	QSW0651-001Z	TACT SWITCH	SOUND	
	S8023	QSW0651-001Z	TACT SWITCH	POWER	
	S8025	QSW0651-001Z	TACT SWITCH	CD3	
	S8026	QSW0651-001Z	TACT SWITCH	CD2	
	S8027	QSW0651-001Z	TACT SWITCH	CD1	
	S8028	QSW0651-001Z	TACT SWITCH	FF(CD)	
	S8029	QSW0651-001Z	TACT SWITCH	STOP(CD)	
	S8030	QSW0651-001Z	TACT SWITCH	PLAY/PAUSE(CD)	
	S8031	QSW0651-001Z	TACT SWITCH	RWD(CD)	
	S8032	QSW0651-001Z	TACT SWITCH	REPEAT(CD)	
	S8501	QSW0651-001Z	TACT SWITCH	CLOCK/TIMER	
	S8502	QSW0651-001Z	TACT SWITCH	MD EDIT	
	S8503	QSW0651-001Z	TACT SWITCH	TITLE	
	S8504	QSW0651-001Z	TACT SWITCH	DISP/CHARA	
	S8505	QSW0651-001Z	TACT SWITCH	1	
	S8506	QSW0651-001Z	TACT SWITCH	2	
	S8507	QSW0651-001Z	TACT SWITCH	3	
	S8508	QSW0651-001Z	TACT SWITCH	4	

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	S8509	QSW0651-001Z	TACT SWITCH	5	
	S8510	QSW0651-001Z	TACT SWITCH	RANDOM/PROGRAM	
	S8511	QSW0651-001Z	TACT SWITCH	<	
	S8512	QSW0651-001Z	TACT SWITCH	>	
	S8513	QSW0651-001Z	TACT SWITCH	CANSEL	
	S8514	QSW0651-001Z	TACT SWITCH	SET	
	S8515	QSW0651-001Z	TACT SWITCH	ENTER	
	W 782	QUM025-20Z3Z3	UL FLAT WIRE		
	W 992	EWS245-020	SKT WIRE ASSY		
	W8002	QUM026-06Z3Z3	EF FLAT WIRE		
	X7001	QAX0416-001Z	CERA LOCK		

■Tuner P.C.B. (B/E/EN Version)

BLOCK NO. 04

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 1	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 3	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 4	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 5	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 6	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 7	NCS21HJ-102X	C CAPACITOR	1000PF 5% 50V	
	C 8	NCS21HJ-150X	C CAPACITOR	15PF 5% 50V	
	C 9	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 11	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 12	NDC21HJ-150X	C CAPACITOR		
	C 13	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 15	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 16	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 18	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 19	NCB21HK-122X	C CAPACITOR	1200PF 10% 50V	
	C 21	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 30	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 31	NCS21HJ-390X	C CAPACITOR	39PF 5% 50V	
	C 32	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 33	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 34	NCS21HJ-150X	C CAPACITOR	15PF 5% 50V	
	C 35	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 36	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 37	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 39	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 40	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 41	QEK41HM-104	E CAPACITOR	.10MF 20% 50V	
	C 42	QEK41HM-474	E CAPACITOR	.47MF 20% 50V	
	C 43	QEKC1HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C 44	NCS21HJ-221X	C CAPACITOR	220PF 5% 50V	
	C 45	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 46	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 47	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 49	NCB21HK-183X	C CAPACITOR	.018MF 10% 50V	
	C 50	NCB21HK-183X	C CAPACITOR	.018MF 10% 50V	
	C 51	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 52	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 53	NCB21HK-681X	C CAPACITOR	680PF 10% 50V	
	C 55	NCS21HJ-120X	C CAPACITOR	12PF 5% 50V	
	C 60	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 61	NCS21HJ-120X	C CAPACITOR	12PF 5% 50V	
	C 62	NCS21HJ-120X	C CAPACITOR	12PF 5% 50V	
	C 63	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 65	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 66	NCS21HJ-151X	C CAPACITOR	150PF 5% 50V	
	C 67	NCS21HJ-151X	C CAPACITOR	150PF 5% 50V	
	C 68	NCS21HJ-101X	C CAPACITOR	100PF 5% 50V	
	C 69	QEK41HM-225	E CAPACITOR	2.2MF 20% 50V	
	C 70	NCB21HK-392X	C CAPACITOR	3900PF 10% 50V	
	C 71	QEKC1HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C 72	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 80	NCS21HJ-820X	C CAPACITOR	82PF 5% 50V	
	C 81	NCS21HJ-470X	C CAPACITOR	47PF 5% 50V	
	C 82	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 83	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	

BLOCK NO. 04

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 84	QEK41HM-225	E CAPACITOR	2.2MF 20% 50V	
	C 85	NCB21HK-331X	C.CAPA. C.M	330PF 10% 50V	
	C 86	NCB21HK-561X	C CAPACITOR	560PF 10% 50V	
	C 89	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 90	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 91	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 92	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 93	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 94	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	CF 1	QAX0420-001	C FILTER	FM IF	
	CF 2	QAX0421-001	C FILTER	FM IF	
	CF 3	QAX0418-001Z	C FILTER		
	CF 4	QAX0409-001	CERA LOCK		
	CN 1	QGF1205F1-10	CONNECTOR		
	CN 2	QGF1205F1-04	CONNECTOR	FOR RDS	
	D 1	1SS254-T2	SI DIODE		
	D 2	1SS254-T2	SI DIODE		
	D 3	1SS254-T2	SI DIODE		
	D 4	1SS254-T2	SI DIODE		
	IC 1	TA2057N	IC		
	IC 2	LC72136N	IC		
	IC 4	BU1922	IC		
	J 1	QNB0014-001	ANT TERMINAL	AM/FM ANT	
	L 1	QQR0871-001	COIL BLOCK	MW/LW RF/OSC	
	L 4	QQL231K-221Y	INDUCTOR		
	L 5	QQL231K-101Y	INDUCTOR		
	L 10	QQR0794-001	TRAP COIL	114KHZ TRAP	
	L 11	QQL231K-2R7Y	INDUCTOR		
	Q 1	2SC2668/O/-T	TRANSISTOR		
	Q 2	DTA114YKA-X	TRANSISTOR		
	Q 3	KTC3199/GL/-T	TR I/M		
	Q 4	KTC3199/GL/-T	TR I/M		
	Q 6	DTA114YKA-X	TRANSISTOR		
	Q 7	2SA1037K/R/-X	TRANSISTOR		
	Q 8	2SA1037K/R/-X	TRANSISTOR		
	Q 14	2SA1037K/R/-X	TRANSISTOR		
	R 1	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 2	NRSA02J-820X	MG RESISTOR	82 5% 1/10W	
	R 3	NRSA02J-560X	MG RESISTOR	56 5% 1/10W	
	R 10	NRSA02J-152X	MG RESISTOR	1.5K 5% 1/10W	
	R 12	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 13	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 15	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 16	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 20	NRSA02J-331X	MG RESISTOR	330 5% 1/10W	
	R 21	NRSA02J-224X	MG RESISTOR	220K 5% 1/10W	
	R 22	NRSA02J-331X	MG RESISTOR	330 5% 1/10W	
	R 23	NRSA02J-100X	MG RESISTOR	10 5% 1/10W	
	R 24	NRSA02J-271X	MG RESISTOR	270 5% 1/10W	
	R 25	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 26	NRSA02J-153X	MG RESISTOR	15K 5% 1/10W	
	R 27	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 29	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 30	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 31	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	

BLOCK NO. 04

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 34	NRSA02J-333X	MG RESISTOR	33K 5% 1/10W	
	R 35	NRSA02J-333X	MG RESISTOR	33K 5% 1/10W	
	R 36	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 37	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 38	NRSA02J-392X	MG RESISTOR	3.9K 5% 1/10W	
	R 39	NRSA02J-392X	MG RESISTOR	3.9K 5% 1/10W	
	R 42	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 43	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 44	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 45	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 46	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 48	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 52	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 54	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 55	NRSA02J-182X	MG RESISTOR	1.8K 5% 1/10W	
	R 56	NRSA02J-332X	MG RESISTOR	3.3K 5% 1/10W	
	R 57	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 60	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 61	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 65	NRSA02J-222X	MG RESISTOR	2.2K 5% 1/10W	
	R 66	NRSA02J-222X	MG RESISTOR	2.2K 5% 1/10W	
	R 68	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 69	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 74	NRSA02J-332X	MG RESISTOR	3.3K 5% 1/10W	
	R 75	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 76	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 80	NRSA02J-222X	MG RESISTOR	2.2K 5% 1/10W	
	R 82	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 83	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 84	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	T 1	QQR0793-001	IFT		
	TU 1	QAU0034-001	FRONT END	FM TU	
	X 1	QAX0402-001	CRYSTAL		
	X 2	QAX0263-001Z	CRYSTAL		

■Tuner P.C.B. (J/U/UB/US/UT Version)

BLOCK NO. 05

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 1	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 2	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 3	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 4	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 5	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 6	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 9	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 12	NDU21HJ-100X	C CAPACITOR		
	C 13	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 14	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 21	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 30	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 32	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 33	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 34	NCS21HJ-150X	C CAPACITOR	15PF 5% 50V	
	C 35	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 36	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 37	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 39	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 40	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 41	QEK41HM-104	E CAPACITOR	.10MF 20% 50V	
	C 42	QEK41HM-474	E CAPACITOR	.47MF 20% 50V	
	C 44	NCS21HJ-221X	C CAPACITOR	220PF 5% 50V	
	C 45	QEKC1HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C 46	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 47	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 49	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	J
	C 49	NCB21HK-153X	C CAPACITOR	.015MF 10% 50V	U,UB,US,UT
	C 50	NCB21HK-153X	C CAPACITOR	.015MF 10% 50V	U,UB,US,UT
	C 50	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	J
	C 51	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 52	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 60	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 61	NCS21HJ-120X	C CAPACITOR	12PF 5% 50V	
	C 62	NCS21HJ-120X	C CAPACITOR	12PF 5% 50V	
	C 63	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 65	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 66	NCS21HJ-151X	C CAPACITOR	150PF 5% 50V	
	C 68	NCS21HJ-101X	C CAPACITOR	100PF 5% 50V	
	C 69	QEK41HM-225	E CAPACITOR	2.2MF 20% 50V	
	C 70	NCB21HK-392X	C CAPACITOR	3900PF 10% 50V	
	C 71	QEKC1HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C 72	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 91	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	CF 1	QAX0419-001Z	C FILTER	FM IF	
	CF 2	QAX0419-001Z	C FILTER	FM IF	
	CF 3	QAX0418-001Z	C FILTER		
	CF 4	QAX0409-001	CERA LOCK		
	CN 1	QGF1205F1-10	CONNECTOR		
	D 1	1SS254-T2	SI DIODE		
	D 2	1SS254-T2	SI DIODE		
	D 3	1SS254-T2	SI DIODE		
	D 4	1SS254-T2	SI DIODE		
	IC 1	TA2057N	IC		
	IC 2	LC72136N	IC		

BLOCK NO. 05

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	J 1	QNB0014-001	ANT TERMINAL	AM/FM ANT	
	L 1	QQR0796-001	COIL BLOCK	MW/LW RF/OSC	
	L 4	QQL231K-221Y	INDUCTOR		
	Q 1	2SC2668/O/-T	TRANSISTOR		
	Q 6	DTA114YKA-X	TRANSISTOR		
	Q 7	2SA1037K/R/-X	TRANSISTOR		
	Q 8	2SA1037K/R/-X	TRANSISTOR		
	R 1	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 2	NRSA02J-821X	MG RESISTOR	820 5% 1/10W	U,UB,US,UT
	R 2	NRSA02J-820X	MG RESISTOR	82 5% 1/10W	J
	R 3	NRSA02J-0R0X	BUS WIRE I/M	5% 1/10W	
	R 10	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 12	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 13	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 20	NRSA02J-331X	MG RESISTOR	330 5% 1/10W	
	R 21	NRSA02J-224X	MG RESISTOR	220K 5% 1/10W	
	R 22	NRSA02J-331X	MG RESISTOR	330 5% 1/10W	
	R 23	NRSA02J-270X	MG RESISTOR	27 5% 1/10W	
	R 24	NRSA02J-271X	MG RESISTOR	270 5% 1/10W	
	R 25	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 27	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 29	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 30	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 31	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 32	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 34	NRSA02J-333X	MG RESISTOR	33K 5% 1/10W	
	R 35	NRSA02J-333X	MG RESISTOR	33K 5% 1/10W	
	R 36	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 37	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 38	NRSA02J-392X	MG RESISTOR	3.9K 5% 1/10W	
	R 39	NRSA02J-392X	MG RESISTOR	3.9K 5% 1/10W	
	R 42	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 43	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 44	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 45	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 46	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 48	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 52	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 54	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 55	NRSA02J-182X	MG RESISTOR	1.8K 5% 1/10W	
	R 56	NRSA02J-332X	MG RESISTOR	3.3K 5% 1/10W	
	R 57	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 66	NRSA02J-222X	MG RESISTOR	2.2K 5% 1/10W	
	R 68	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 69	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 98	QRZ9037-335	COMP.RESISTOR	3.3M 1/0W	J
	R 99	QRZ9037-335	COMP.RESISTOR	3.3M 1/0W	J
	T 1	QQR0793-001	IFT		
	TU 1	QAU0097-001	FRONT END		J
	TU 1	QAU0037-001	FRONT END		U,UB,US,UT
	X 1	QAX0402-001	CRYSTAL		

■ CD Servo Changer Control P.C.B.

BLOCK NO. 06

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 602	NCS21HJ-5R0AY	C CAPACITOR	5.0PF 5% 50V	
	C 604	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 605	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 607	NCB21HK-822X	C CAPACITOR	8200PF 10% 50V	
	C 608	QEK41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C 609	NCS21HJ-101X	C CAPACITOR	100PF 5% 50V	
	C 610	NCB21HK-273X	C CAPACITOR	.027MF 10% 50V	
	C 611	NCB21HK-472X	C CAPACITOR	4700PF 10% 50V	
	C 612	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 613	NCS21HJ-331X	C CAPACITOR	330PF 5% 50V	
	C 614	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
	C 615	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 616	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 617	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 618	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 619	NCS21HJ-271X	C CAPACITOR	270PF 5% 50V	
	C 620	NCS21HJ-151X	C CAPACITOR	150PF 5% 50V	
	C 621	NCB21HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 622	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 623	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
	C 628	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 629	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 631	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 632	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 633	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 634	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 651	NCS21HJ-120X	C CAPACITOR	12PF 5% 50V	
	C 652	NCS21HJ-150X	C CAPACITOR	15PF 5% 50V	
	C 653	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 654	NCS21HJ-6R0X	C CAPACITOR	6.0PF 5% 50V	
	C 655	NCB21EK-473X	C CAPACITOR	.047MF 10% 25V	
	C 657	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 658	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 659	QEKJ0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 661	NCS21HJ-471X	C CAPACITOR	470PF 5% 50V	
	C 662	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 663	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 664	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 665	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
	C 666	QEK40JM-227	E CAPACITOR	220MF 20% 6.3V	
	C 671	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 672	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 673	QEK40JM-227	E CAPACITOR	220MF 20% 6.3V	
	C 674	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 675	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
	C 676	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
	C 681	QEK40JM-227	E CAPACITOR	220MF 20% 6.3V	
	C 687	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
	C 688	NCB21EK-104X	C CAPACITOR	.10MF 10% 25V	
	C 691	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 692	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 693	QCZ0313-105Z	C CAPACITOR	1.0MF	
	C 694	QCZ0313-105Z	C CAPACITOR	1.0MF	
	C 695	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	CN601	QGF1201C3-23	CONNECTOR		

BLOCK NO. 06

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN604	QGA2501C4-03	CONNECTOR		
	CN605	QGF1016F1-11	CONNECTOR		
	CN606	QGF1016F1-07	CONNECTOR		
	D 670	HSM2836C-W	DIODE		
	D 671	HSM2836C-W	DIODE		
	IC601	AN8806SB-W	IC		
⚠	IC641	BA6897FP-W	IC		
	IC651	MN35510	IC		
	IC681	MN150837J8R3	IC		
	IC691	LB1641	IC		
	IC692	LB1641	IC		
	L 691	QQL01BK-100Z	INDUCTOR		
	L 692	QQL01BK-100Z	INDUCTOR		
	PC691	SG-256	PHOTO INTERRUPT		
	Q 601	2SA1037K/R/-X	TRANSISTOR		
	Q 631	2SA952/LK/-T	TRANSISTOR		
	R 601	NRSA02J-123X	MG RESISTOR	12K 5% 1/10W	
	R 602	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 603	NRSA02J-125X	MG RESISTOR	1.2M 5% 1/10W	
	R 605	NRSA02J-274X	MG RESISTOR	270K 5% 1/10W	
	R 606	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 607	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 608	NRSA02J-124X	MG RESISTOR	120K 5% 1/10W	
	R 609	NRSA02J-393X	MG RESISTOR	39K 5% 1/10W	
	R 610	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 612	NRSA02J-822X	MG RESISTOR	8.2K 5% 1/10W	
	R 613	NRSA02J-121X	MG RESISTOR	120 5% 1/10W	
	R 614	NRSA02J-100X	MG RESISTOR	10 5% 1/10W	
	R 615	NRSA02J-120X	MG RESISTOR	12 5% 1/10W	
	R 616	NRSA02J-910X	MG RESISTOR	91 5% 1/10W	
	R 617	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 618	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 619	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 620	NRSA02J-473X	MG RESISTOR	47K 5% 1/10W	
	R 621	NRSA02J-101X	MG RESISTOR	100 5% 1/10W	
	R 622	NRSA02J-101X	MG RESISTOR	100 5% 1/10W	
	R 623	NRSA02J-101X	MG RESISTOR	100 5% 1/10W	
	R 624	NRSA02J-101X	MG RESISTOR	100 5% 1/10W	
	R 625	NRSA02J-823X	MG RESISTOR	82K 5% 1/10W	
	R 626	NRSA02J-823X	MG RESISTOR	82K 5% 1/10W	
	R 631	NRSA02J-331X	MG RESISTOR	330 5% 1/10W	
	R 633	NRSA02J-273X	MG RESISTOR	27K 5% 1/10W	
	R 641	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 642	NRSA02J-682X	MG RESISTOR	6.8K 5% 1/10W	
	R 643	NRSA02J-183X	MG RESISTOR	18K 5% 1/10W	
	R 644	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 645	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 646	NRSA02J-182X	MG RESISTOR	1.8K 5% 1/10W	
	R 647	NRSA02J-182X	MG RESISTOR	1.8K 5% 1/10W	
	R 648	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 649	NRSA02J-822X	MG RESISTOR	8.2K 5% 1/10W	
	R 651	NRSA02J-471X	MG RESISTOR	470 5% 1/10W	
	R 652	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 653	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 654	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	

BLOCK NO. 06

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 655	NRSA02J-471X	MG RESISTOR	470 5% 1/10W	
	R 656	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 657	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 658	NRSA02J-100X	MG RESISTOR	10 5% 1/10W	
	R 659	NRSA02J-471X	MG RESISTOR	470 5% 1/10W	
	R 661	NRSA02J-683X	MG RESISTOR	68K 5% 1/10W	
	R 662	NRSA02J-155X	MG RESISTOR	1.5M 5% 1/10W	
	R 663	NRSA02J-124X	MG RESISTOR	120K 5% 1/10W	
	R 664	NRSA02J-471X	MG RESISTOR	470 5% 1/10W	
	R 665	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 666	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 667	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 668	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 669	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 670	NRSA02J-470X	MG RESISTOR	47 5% 1/10W	
	R 671	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 672	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 673	NRSA02J-100X	MG RESISTOR	10 5% 1/10W	
	R 674	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 675	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 676	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 681	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 682	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 683	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 684	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 685	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 686	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 687	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 688	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 691	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 692	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 693	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 694	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 695	NRSA02J-103X	MG RESISTOR	10K 5% 1/10W	
	R 696	NRSA02J-181X	MG RESISTOR	180 5% 1/10W	
	S 691	QSW0449-001	SWITCH		
	S 692	QSW0449-001	SWITCH		
	S 693	QSW0472-001	SWITCH		
	X 651	QAX0413-001Z	CRYSTAL		
	X 681	QAX0248-001Z	CERA LOCK		
	Z 651	VYH7237-003	IC HOLDER		
	Z 681	VYH7237-001MM	IC HOLDER		

■ CD Traverse Mecha P.C.B.

BLOCK NO. 07

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN699	EMV7169-006R	CONNECTOR		
	S 699	VSH1173-001	LEAF SWITCH		

■ MD Servo Control P.C.B.

BLOCK NO. 08

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 300	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 302	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 307	NCB31HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 310	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 311	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 312	NEA20GM-476NZ	E CAPACITOR	47MF 20%	
	C 314	NCB31CK-223X	C CAPACITOR	.022MF 10% 16V	
	C 315	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 316	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 318	NCB31HK-682X	C CAPACITOR	6800PF 10% 50V	
	C 319	NCB31CK-333X	C CAPACITOR	.033MF 10% 16V	
	C 320	NCB21AK-105X	C CAPACITOR	1.0MF 10% 10V	
	C 321	NCB31HK-472X	C CAPACITOR	4700PF 10% 50V	
	C 322	NCB21AK-105X	C CAPACITOR	1.0MF 10% 10V	
	C 323	NCB31HK-682X	C CAPACITOR	6800PF 10% 50V	
	C 324	NCB21CK-224X	C CAPACITOR	.22MF 10% 16V	
	C 325	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V	
	C 326	NCB31CK-223X	C CAPACITOR	.022MF 10% 16V	
	C 327	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 328	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 330	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 333	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 334	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 340	NCB31CK-223X	C CAPACITOR	.022MF 10% 16V	
	C 341	NCB31CK-223X	C CAPACITOR	.022MF 10% 16V	
	C 342	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 350	NEA20GM-476NZ	E CAPACITOR	47MF 20%	
	C 351	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 352	NEA20GM-476NZ	E CAPACITOR	47MF 20%	
	C 353	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 354	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 355	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 356	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 357	NCS21HJ-100X	C CAPACITOR	10PF 5% 50V	
	C 358	NCS21HJ-100X	C CAPACITOR	10PF 5% 50V	
	C 359	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 361	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 371	NCS31HJ-100X	C CAPACITOR	10PF 5% 50V	
	C 372	NCS31HJ-100X	C CAPACITOR	10PF 5% 50V	
	C 375	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V	
	C 376	NCB21CK-474X	C CAPACITOR	.47MF 10% 16V	
	C 377	NCS31HJ-471X	C CAPACITOR	470PF 5% 50V	
	C 379	NCB21CK-474X	C CAPACITOR	.47MF 10% 16V	
	C 380	NCB31CK-153X	C CAPACITOR	.015MF 10% 16V	
	C 381	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 382	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 390	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 400	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 401	NEA20JM-107NZ	E CAPACITOR	100MF 20% 6.3V	
	C 402	NCB31HK-331X	C CAPACITOR	330PF 10% 50V	
	C 403	NEA20GM-476NZ	E CAPACITOR	47MF 20%	
	C 404	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 410	NEA20JM-107NZ	E CAPACITOR	100MF 20% 6.3V	
	C 411	NCF31AZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 412	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 421	NCB31HK-561X	C CAPACITOR	560PF 10% 50V	
	C 423	NCB31HK-561X	C CAPACITOR	560PF 10% 50V	
	C 425	NCB31HK-561X	C CAPACITOR	560PF 10% 50V	
	C 427	NCB31HK-561X	C CAPACITOR	560PF 10% 50V	
	C 429	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 431	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 433	NCB31HK-562X	C CAPACITOR	5600PF 10% 50V	
	C 435	NCB31HK-562X	C CAPACITOR	5600PF 10% 50V	
	C 437	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V	
	C 439	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V	
	C 450	NEA20JM-107NZ	E CAPACITOR	100MF 20% 6.3V	
	C 451	NEA20GM-107NZ	E CAPACITOR	100MF 20%	
	C 452	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 453	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 455	NDC32AJ-101X	C CAPACITOR		
	C 480	NEA20JM-476NZ	E CAPACITOR	47MF 20% 6.3V	
	C 481	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 482	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 483	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 484	NEA21CM-106NZ	E CAPACITOR	10MF 20% 16V	
	C 485	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 486	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 487	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 488	NEA21CM-106NZ	E CAPACITOR	10MF 20% 16V	
	C 490	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V	
	C 491	NCB31HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 492	NCB31HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 493	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 501	NCS21HJ-220X	C CAPACITOR	22PF 5% 50V	
	C 502	NCS21HJ-220X	C CAPACITOR	22PF 5% 50V	
	C 511	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 512	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 515	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 591	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	CN321	QGF0501F2-21X	CONNECTOR C.M		
	CN407	QGA2001F2-07X	SOCKET		
	CN408	QGA2001F2-08X	SOCKET		
	CN521	QGF1006F2-21W	SOCKET		
	D 310	1SS355-X	DIODE C.M		
	D 451	SC802-06-X	DIODE		
	D 452	SC802-06-X	DIODE		
	IC310	CXA2523AR	IC		
	IC340	TC7S08F-W	IC		
	IC350	CXD2652AR	IC		
	IC390	MN41V4400TT-08	IC		
	IC410	M56758FP-X	IC 5CH DRIVER		
	IC450	BD7910FV-X	IC M.HEAD DRIVE		
	IC480	AK4520A-VF-X	IC A/D.D/A CONV		
	IC485	TK71340M-W	IC 4.0V REG		
	IC500	HD6433045SV06F	MPU		
	IC590	AK93C45AF-W	IC		
	K 391	NQR0265-003X	FERRITE BEADS		
	K 491	NQR0129-004X	FERRITE BEADS		
	K 492	NQR0129-004X	FERRITE BEADS		
	K 495	NQR0129-004X	FERRITE BEADS		

BLOCK NO. 08

△	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	K 496	NQR0129-004X	FERRITE BEADS		
	K 521	NQR0155-002X	INDUCTOR		
	K 522	NQR0155-002X	INDUCTOR		
	K 523	NQR0129-002X	FERRITE BEADS		
	K 524	NRSA63J-0R0X	MG RESISTOR	5%	
	L 525	NQL114M-1R0X	INDUCTOR		
	L 526	NQL114M-1R0X	INDUCTOR		
	Q 330	2SA1362/G/-X	TRANSISTOR		
	Q 331	DTA114EKA-X	DIGITAL.TR		
	Q 332	DTA113ZKA-X	TRANSISTOR		
	Q 333	DTA113ZKA-X	TRANSISTOR		
	Q 400	2SA1363/EF/-X	CHIP TRANSISTOR		
	Q 401	2SC2411K/QR/-X	CHIP TRANSISTOR		
	Q 402	DTA113ZKA-X	TRANSISTOR		
	R 300	NRSA63J-0R0X	MG RESISTOR	5%	
	R 301	NRSA63J-0R0X	MG RESISTOR	5%	
	R 302	NRSA63J-0R0X	MG RESISTOR	5%	
	R 303	NRSA63J-122X	MG RESISTOR	1.2K 5%	
	R 305	NRSA63J-222X	MG RESISTOR	2.2K 5%	
	R 306	NRSA63J-474X	MG RESISTOR	470K 5%	
	R 309	NRSA63J-474X	MG RESISTOR	470K 5%	
	R 310	NRSA63J-331X	MG RESISTOR	330 5%	
	R 311	NRSA63J-183X	MG RESISTOR	18K 5%	
	R 312	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 313	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 314	NRSA63J-133X	MG RESISTOR	13K 5%	
	R 315	NRSA63J-243X	MG RESISTOR	24K 5%	
	R 316	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 317	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 320	NRSA63J-563X	MG RESISTOR	56K 5%	
	R 321	NRSA63J-331X	MG RESISTOR	330 5%	
	R 322	NRSA63J-331X	MG RESISTOR	330 5%	
	R 323	NRSA63J-331X	MG RESISTOR	330 5%	
	R 324	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 325	NRSA63J-472X	MG RESISTOR	4.7K 5%	
	R 326	NRSA63J-331X	MG RESISTOR	330 5%	
	R 327	NRSA63J-331X	MG RESISTOR	330 5%	
	R 328	NRSA63J-101X	MG RESISTOR	100 5%	
	R 330	NRSA63J-0R0X	MG RESISTOR	5%	
	R 331	NRSA63J-220X	MG RESISTOR	22 5%	
	R 336	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 337	NRSA63J-1R0X	MG RESISTOR	1.0 5%	
	R 338	NRSA63J-4R7X	MG RESISTOR	4.7 5%	
	R 340	NRSA63J-222X	MG RESISTOR	2.2K 5%	
	R 341	NRSA63J-222X	MG RESISTOR	2.2K 5%	
	R 342	NRSA63J-222X	MG RESISTOR	2.2K 5%	
	R 351	NRSA63J-100X	MG RESISTOR	10 5%	
	R 352	NRSA63J-100X	MG RESISTOR	10 5%	
	R 353	NRSA63J-105X	MG RESISTOR	1.0M 5%	
	R 354	NRVA63D-103X	MF RESISTER	10K	
	R 355	NRVA63D-103X	MF RESISTER	10K	
	R 361	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 362	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 363	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 364	NRSA63J-102X	MG RESISTOR	1.0K 5%	

BLOCK NO. 08

△	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 365	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 366	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 367	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 368	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 369	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 370	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 371	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 372	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 375	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 376	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 377	NRSA63J-684X	MG RESISTOR	680K 5%	
	R 378	NRSA63J-332X	MG RESISTOR	3.3K 5%	
	R 379	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 380	NRSA63J-105X	MG RESISTOR	1.0M 5%	
	R 381	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 382	NRSA63J-151X	MG RESISTOR	150 5%	
	R 389	NRSA63J-331X	MG RESISTOR	330 5%	
	R 391	NRSA63J-152X	MG RESISTOR	1.5K 5%	
	R 392	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 393	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 394	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 395	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 396	NRSA63J-331X	MG RESISTOR	330 5%	
	R 397	NRSA63J-331X	MG RESISTOR	330 5%	
	R 401	NRVA63D-123X	MG RESISTOR	12K	
	R 402	NRVA63D-512X	MG RESISTOR	5.1K	
	R 403	NRSA63J-0R0X	MG RESISTOR	5%	
	R 404	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 420	NRVA63D-223X	MF RESISTER	22K	
	R 421	NRVA63D-103X	MF RESISTER	10K	
	R 422	NRVA63D-223X	MF RESISTER	22K	
	R 423	NRVA63D-103X	MF RESISTER	10K	
	R 424	NRVA63D-223X	MF RESISTER	22K	
	R 425	NRVA63D-103X	MF RESISTER	10K	
	R 426	NRVA63D-223X	MF RESISTER	22K	
	R 427	NRVA63D-103X	MF RESISTER	10K	
	R 428	NRVA63D-223X	MF RESISTER	22K	
	R 429	NRVA63D-103X	MF RESISTER	10K	
	R 430	NRVA63D-223X	MF RESISTER	22K	
	R 431	NRVA63D-103X	MF RESISTER	10K	
	R 432	NRVA63D-223X	MF RESISTER	22K	
	R 433	NRVA63D-822X	MF RESISTER	8.2K	
	R 434	NRVA63D-223X	MF RESISTER	22K	
	R 435	NRVA63D-822X	MF RESISTER	8.2K	
	R 436	NRSA63J-223X	MF RESISTER	22K 5%	
	R 437	NRSA63J-302X	MG RESISTOR	3.0K 5%	
	R 438	NRSA63J-223X	MF RESISTER	22K 5%	
	R 439	NRSA63J-302X	MG RESISTOR	3.0K 5%	
	R 451	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 452	NRSA63J-682X	MG RESISTOR	6.8K 5%	
	R 453	NRSA63J-1R0X	MG RESISTOR	1.0 5%	
	R 454	NRSA63J-1R0X	MG RESISTOR	1.0 5%	
	R 455	NRSA63J-223X	MF RESISTER	22K 5%	
	R 481	NRSA63J-100X	MG RESISTOR	10 5%	
	R 483	NRSA63J-0R0X	MG RESISTOR	5%	

BLOCK NO. 08

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 485	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 491	NRSA63J-471X	MG RESISTOR	470 5%	
	R 492	NRSA63J-471X	MG RESISTOR	470 5%	
	R 495	NRSA63J-471X	MG RESISTOR	470 5%	
	R 496	NRSA63J-471X	MG RESISTOR	470 5%	
	R 501	NRSA63J-105X	MG RESISTOR	1.0M 5%	
	R 502	NRSA63J-561X	MG RESISTOR	560 5%	
	R 503	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 504	NRSA63J-333X	MG RESISTOR	33K 5%	
	R 505	NRSA63J-4R7X	MG RESISTOR	4.7 5%	
	R 510	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 511	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 512	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 513	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 514	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 515	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 516	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 517	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 518	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 519	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 520	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 521	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 522	NRSA63J-222X	MG RESISTOR	2.2K 5%	
	R 523	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 524	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 525	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 531	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 532	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 533	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 534	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 535	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 549	NRSA63J-0R0X	MG RESISTOR	5%	
	R 551	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 552	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 553	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 554	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 555	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 556	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 557	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 558	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 559	NRSA63J-333X	MG RESISTOR	33K 5%	
	R 560	NRSA63J-333X	MG RESISTOR	33K 5%	
	R 561	NRSA63J-333X	MG RESISTOR	33K 5%	
	R 562	NRSA63J-333X	MG RESISTOR	33K 5%	
	R 563	NRSA63J-333X	MG RESISTOR	33K 5%	
	R 591	NRSA63J-220X	MG RESISTOR	22 5%	
	R 592	NRSA63J-104X	MG RESISTOR	100K 5%	
	X 350	NAX0160-001X	CRYSTAL		
	X 500	NAX0159-001X	CRYSTAL		

■ MD Loading P.C.B.

BLOCK NO. 09

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	S003	QSW0472-001	SWITCH		
	CN002	EWS267-F908	SKT WIRE ASSY		

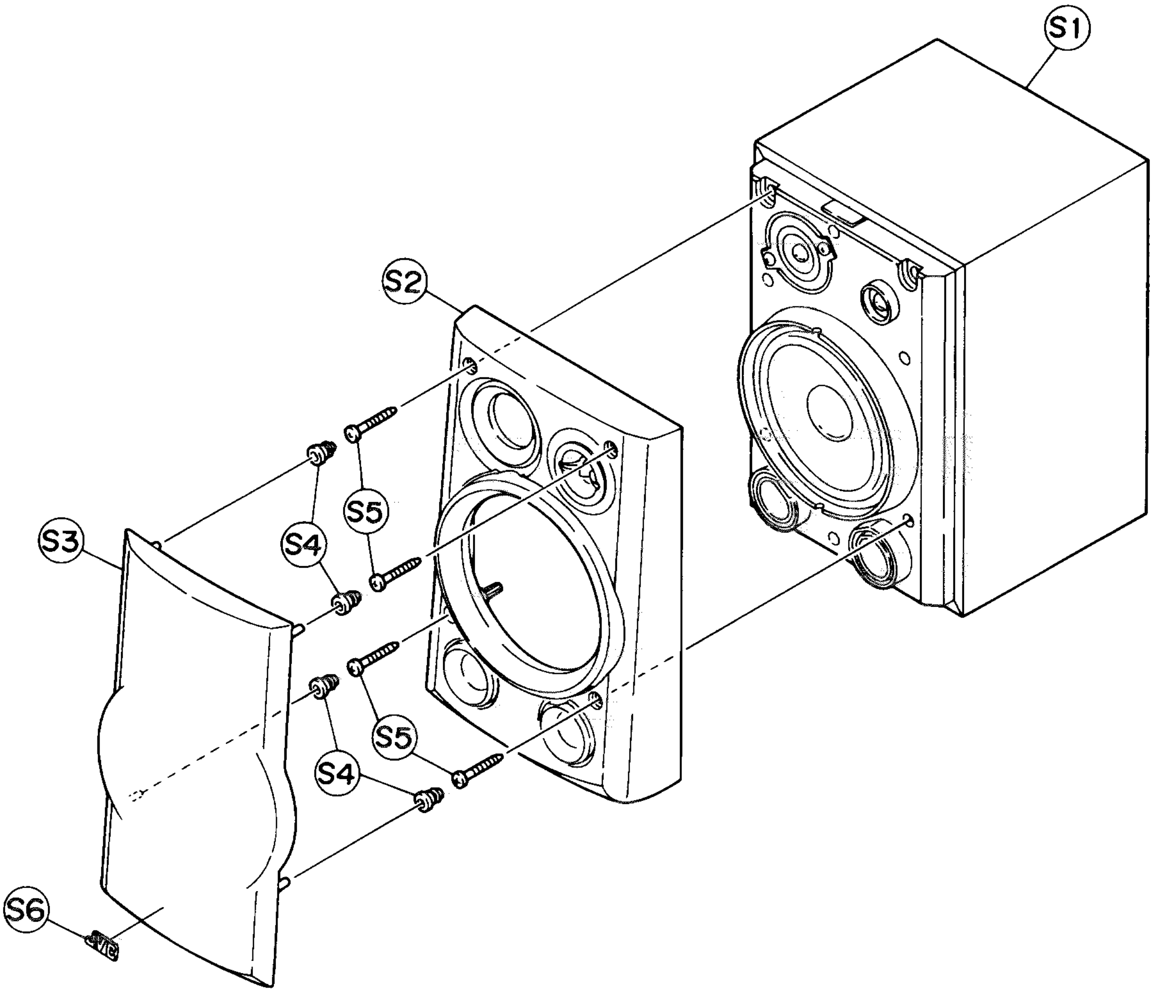
■ MD Swith P.C.B.

BLOCK NO. 10

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	S001	QSW0104-001	SWITCH		
	CN001	EWS268-F911	SKT WIRE ASSY		

Speaker Ass'y and Parts List (SP-MD70)

Block No. M 4 M M



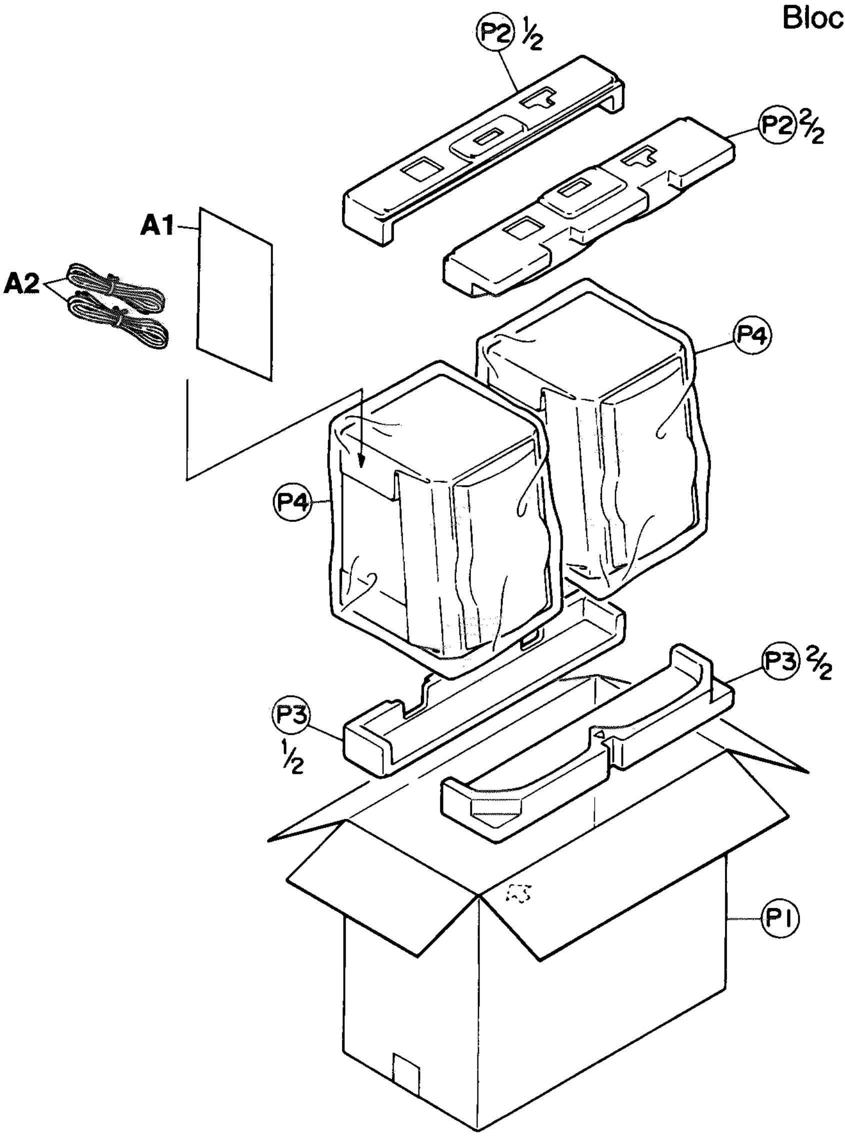
■ Parts List (Speaker Assembly)

BLOCK NO. M4MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	S 1	LV20106-001A	WOOD CABINET(R)		1	B,E,EN,J	
		LV20105-002A	WOOD CABINET(L)		1	U,UB,US,UT	
		LV20105-001A	WOOD CABINET(R)		1	U,UB,US,UT	
		LV20106-002A	WOOD CABINET(L)		1	B,E,EN,J	
	S 2	LV10067-001A	ORNAMENT(R)		1		
		LV10067-002A	ORNAMENT(L)		1		
	S 3	LV10068-001A	SARAN BOARD ASS		2		
	S 4	E407076-002	HOLDER		8		
	S 5	QYSDSF4025Z	SCREW		8		
	S 6	LE40141-001A	JVC MARK		2		

Packing Materials and Accessories Parts List for Speaker

Block No. M 5 M M
Block No. M 6 M M



■ Packing Parts List (Speaker)

BLOCK NO. M5MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	LV30184-019A	PACKING CASE	SP-MD70	1	UT	
		LV30184-003A	PACKING CASE	SP-MD70	1	U,UB,US	
		LV30184-004A	PACKING CASE	SP-MD70	1	B,E,EN	
		LV30184-009A	PACKING CASE	MX-MD70	1	J	
	P 2	LV20123-001A	PACKING PAD	UPPER	1		
	P 3	LV20122-001A	PACKING PAD	BOTTOM	1		
	P 4	LV30133-002A	POLY BAG		2		

■ Accessories Parts List (Speaker)

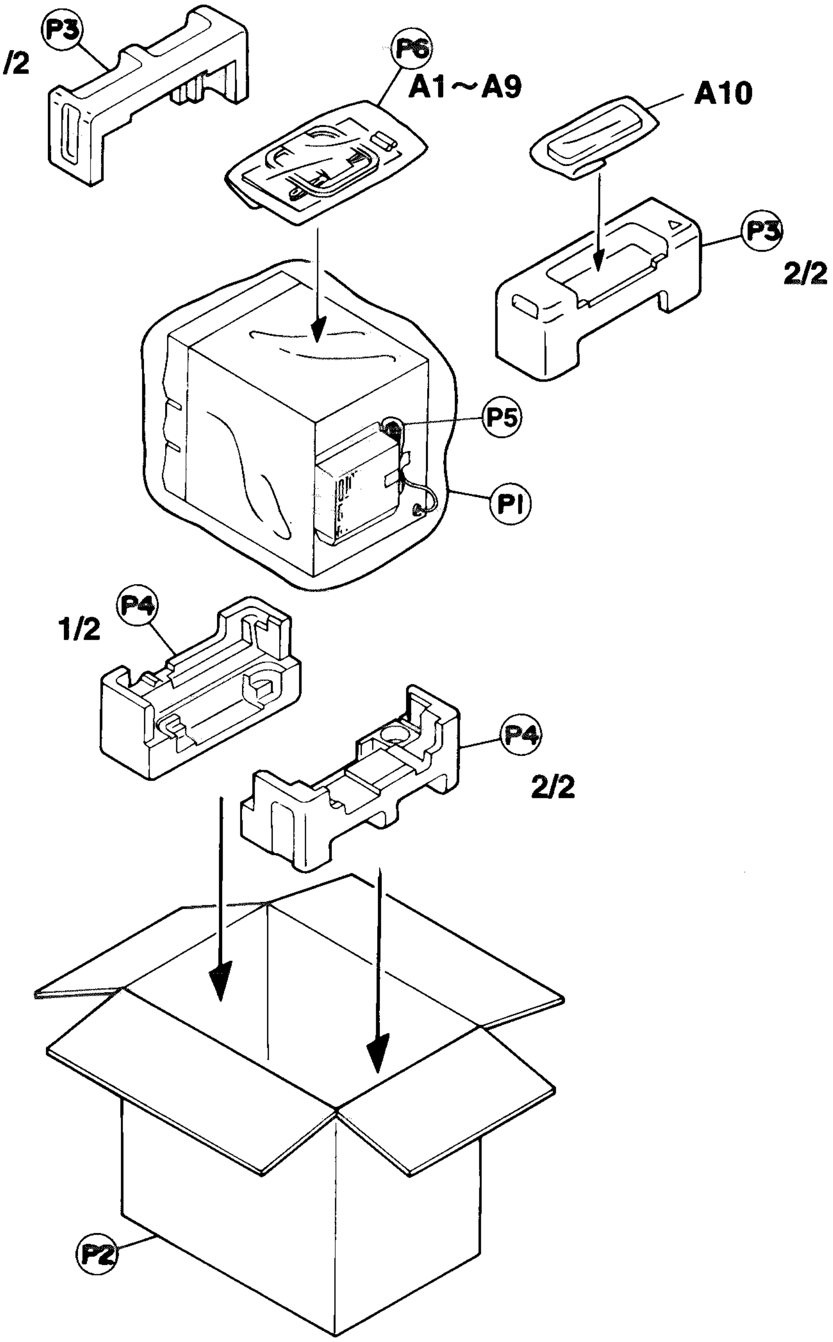
BLOCK NO. M6MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	LVT0184-001A	INSTRUCTIONS	SP-MD70	1	U,UB,US,UT	
		LVT0184-002A	INSTRUCTIONS	SP-MD70	1	B,E,EN	
	A 2	6200036801	SPEAKER CORD	SP-MD70	2	B,E,EN	
		6200036801	SPEAKER CORD	MX-MD70	2	J	

Packing Materials and Accessories Parts List

(CA-MD70/CA-MD70R)

Block No. M 7 M M
Block No. M 8 M M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P2

■ Packing Parts List (CA-MD70/CA-MD70R)

BLOCK NO. M7MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	QPC06506515P	POLY BAG	FOR SET	1		
	P 2	LV20118-001A	PACKING CASE	CA-MD70R	1		
		LV20118-002A	PACKING CASE	CA-MD70	1		
	P 3	LV20119-001A	PACKING PAD	UPPER	1		
	P 4	LV20120-001A	PACKING PAD	BOTTOM	1		
	P 5	QPA01001505	ENVELOPE	PLUG	1	B/UB	
	P 6	QPC02503510P	POLY BAG	FOR ACCESSARY	1		

■ Accessories Parts List (CA-MD70/CA-MD70R)

BLOCK NO. M8MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	LVT0074-001B	I.BOOK/CA-MD70R	ENG	1	B	
		LVT0074-002B	I.BOOK/CA-MD70R	DUT/SPA/ITA	1	E	
		LVT0074-003B	I.BOOK/CA-MD70R	SWE/FIN/DAN	1	EN	
		LVT0075-001B	I.BOOK/CA-MD70	ARA/POR	1	U/UB/US/UT	
		LVT0075-001B	I.BOOK/CA-MD70	ENG/SPA/CHI	1	U/UB/US/UT	
		LVT0074-002B	I.BOOK/CA-MD70R	ENG/GER/FRE	1	E	
		LVT0074-003B	I.BOOK/CA-MD70R	GER/FRE/DUT	1	EN	
	A 2	E43486-340A	BS=SAFETY INST	CA-MD70R	1	B	
	A 3	BT-54008-1	WARRANTY CARD	CA-MD70R	1	B/E/EN	
	A 5	LV30258-044A	UB SHEET		1	UB	
	A 6	QAL0014-001	AM LOOP ANTENNA		1		
	A 7	EWP503-001	ANTENNA WIRE		1		
	A 8	QAM0060-001	SIEMENS PLUG		1	U/US	
		QAM0027-001	SIEMENS PLUG		1	UT	
	A 9	---------------	BATTERY		1		
	A 10	RM-SEMD70RU	REMOCON	CA-MD70R	1		
		RM-SEMD70EU	REMOCON	CA-MD70	1		

Packing Materials and Accessories Parts List

(MX-MD70)

Block No. M 7 M M
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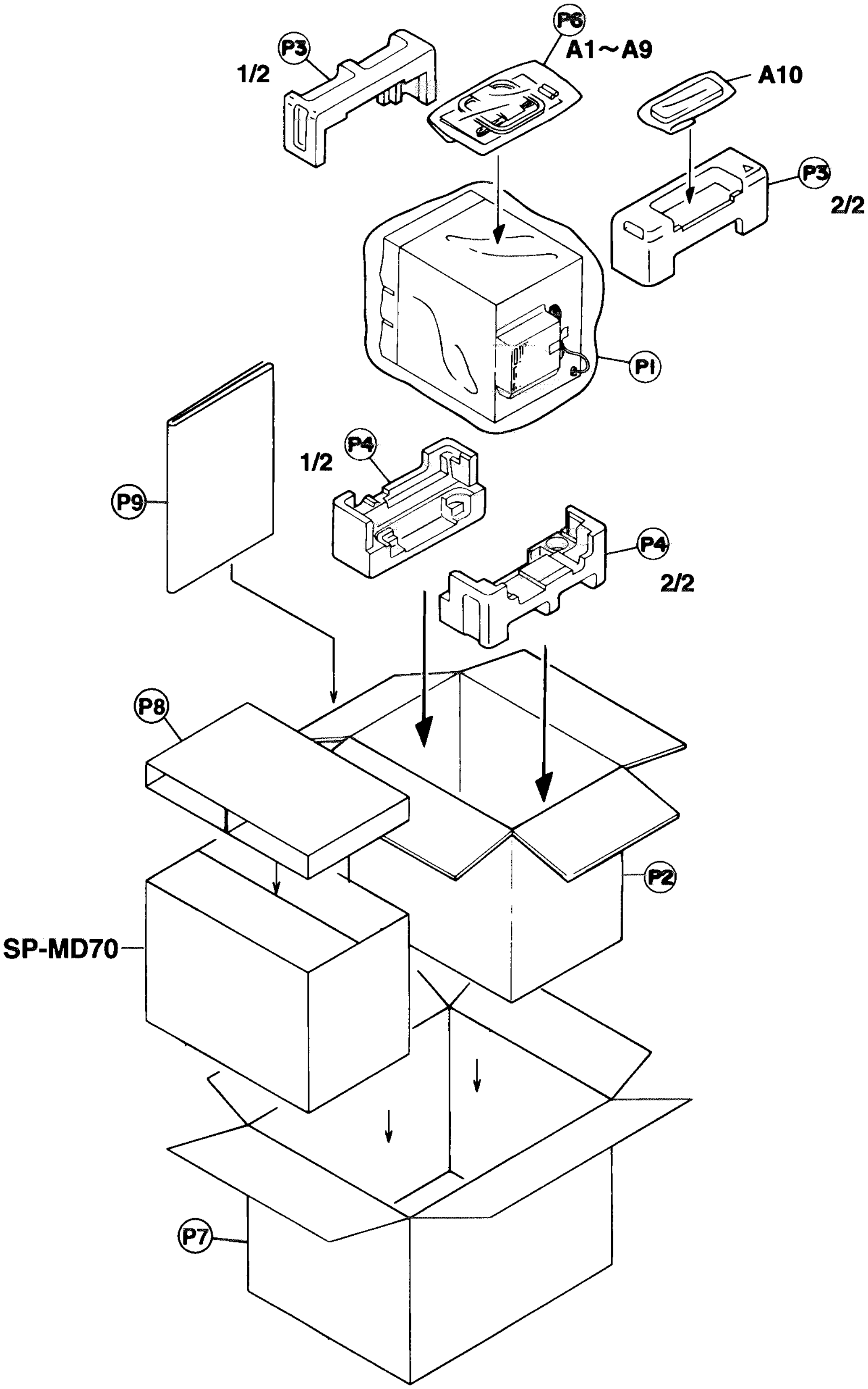
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P8
P2
SP-MD70
P7

■ Packing Parts List (MX-MD70)

BLOCK NO. M7MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	QPC06506515P	POLY BAG	FOR SET	1		
	P 2	LV20118-003A	PACKING CASE		1		
	P 3	LV20119-001A	PACKING PAD	UPPER	1		
	P 4	LV20120-001A	PACKING PAD	BOTTOM	1		
	P 6	QPC02503510P	POLY BAG	FOR ACCESSARY	1		
	P 7	LV10159-003A	PACKING CASE		1		
	P 8	LV30867-001A	PACKING SHEET(A		1		
	P 9	LV30868-001A	PACKING SHEET(B		1		

■ Accessories Parts List (MX-MD70R)

BLOCK NO. M8MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	LVT0146-001A	I.BOOK/MX-MD70	ENG,FRE	1	J	
	A 2	BT-20044G	SAFETY SHEET		1		
	A 3	BT-51009-3	WARRANTY CARD		1		
		BT-52001-4	WARRANTY CARD		1		
	A 4	BT-20071B	SERVICE NETWORK		1		
		BT-51015-2	SERVICE NETWORK		1		
	A 6	QAL0014-001	AM LOOP ANTENNA		1		
	A 7	EWP503-001	ANTENNA WIRE		1		
	A 9	---------------	BATTERY		1		
	A 10	RM-SEMD70U	REMOCON	MX-MD70	1		

JVC
VICTOR COMPANY OF JAPAN, LIMITED
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